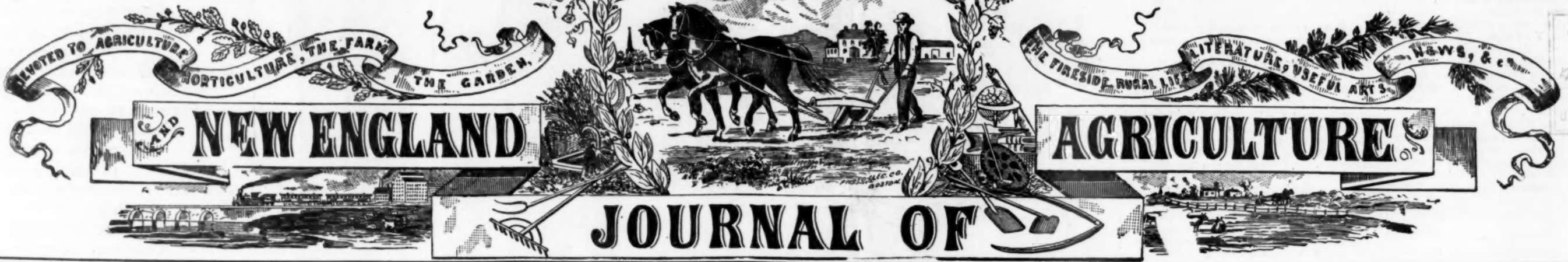


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Correspondence from particular farmers, giving
the results of their experience, is solicited.
Letters should be signed with the writer's real
name, in full, which will be printed or not, at
the writer's wish.

THE PLOUGHMAN offers great advantages to ad-
vertisers. Its circulation is large and among the
most active and intelligent portion of the com-
munity.

AGRICULTURAL.

Troubles of Apple Growers.

For many years the growing of apples
has for the majority of farmers become a
much more uncertain business than it used
to be. This year the crop is generally de-
ficient except in some especially favored
localities which did not produce a crop last
year. It is the tendency of apple trees to grow
fruit every year, a full crop one year and a
more moderate crop the following season.
This season the weather has been too dry
all through the Eastern States, and in many
places late frosts have killed the buds after
the buds had too far advanced. This de-
stroyed many crops where, but for late
freezing in spring, there might have been at
least a full blossom.

But even after the fruit has set it has to
encounter a multitude of insect pests, which,
together with fungous diseases, destroy far
more fruit than comes to maturity. When
these are taken into consideration, it might
be expected that so many difficulties
would entirely discourage farmers.
They do to some extent. But naturally
farmers are hopeful. They know that they
are working with nature, and
though nature seems at times to be
prevented, that is not its permanent
condition, but comes from not understand-
ing the laws of nature well enough. When
these are learned the perversities of nature
will be done away with. Modern scientific
research has done much to make the apple-
growing business more successful. Yet
every one in a while even the scientists
fall enough at least to show them that they
have not learned everything. The older
scientists recognize this. It is only the
fresh young men who have been studying
under the scientists who believe that their
instructors know everything as is perhaps
proper while they are themselves under
tutelage.

Apple trees, planted and cared for as usual
to be common, will make a full crop only
once in five or six years. Where insects
and fungous diseases abound they may be
entirely prevented from bearing and even
killed outright. That is the condition of
many neglected apple orchards in all the
older parts of the country today, and has
been for many years. Yet in 1896, only
three years ago, nature produced the favor-
able conditions for bringing out a full
crop of blossoms with the weather afterward
for growing a crop of apples. Every tree
that was fairly healthy made an apple crop
that year. That was a miracle under
nature's own doing. But it is easily accounted for.
There were few apples anywhere and
none in some places. These last were for-
tunate, for where the apples were central
destroyed, the codling moth had nothing to
feed on and was exterminated. This hap-
pened so generally that there have been
fewer codling moths anywhere ever since,
and but for bad seasons we should have had
moderate apple crops every year since.

Another reason why the apple crop
has been small since the great "boom" crop of
1896 is that trees overbore and so exhausted
themselves as to make blight worse than it
would otherwise have been. After every
full crop of any fruit, unless the tree is
cared for, there must be several seasons of
comparative unproductiveness from ex-
haustion of the tree from insects and from
fungous diseases, as well as from the ex-
haustion of vitality from overbearing. This
last has greatly increased the destructive-
ness of the apple-tree borer which works
worst in unthrifty trees and makes them
still more unthrifty. So when a farmer
begins to neglect his trees the borer comes
to his aid and kills them off, to leave more
room for those worth growing. It is thus
that nature seems often to side against the
weakest. It is a needed lesson to teach
that all should be made strong, and there-
fore productive and profitable.

The worst of all the results of the great
apple crop of 1896 was that few apple grow-
ers took pains to thin their apples when
they blossomed too fully, and most of the
crop was undersized and poorly colored. It
was of course sold at very low prices. Much of

it could hardly be given away, and thou-
sands of bushels of good fruit rotted on the
ground or was made into cider. This capped
the climax. Many old farmers said it was
no use trying to grow apples. Either blight
or insects would destroy them or the trees
would overbear, exhausting themselves and
killing many trees, and after all not selling
for enough to pay for marketing.

But a more hopeful era has come. Some
good apple crops have been grown the past
season and sold for high prices. We hope
to tell how this was done in future issues of
this paper.

Bacteria Help Farmers.

Science is learning more and more about
the important part for good or evil played
in the world's economy by those insig-
nificant organisms, by bacilli and bacteria.
Some interesting experiments in scientific
farming have been in progress recently at
Lord Rosebery's Scottish estate, Dalmeny
Park, under the direction of John Hunter,
F. I. C., F. C. S., to determine the part
which bacteria play in the nutrition of
plant life and the best methods of promot-
ing plant growth. These experiments are
described in an article in the current num-
ber of the Nineteenth Century.

The experiments were begun in 1895 and
were the outcome of observations upon
plant life which Mr. Hunter and Professor
McAlpine began about 18 years ago when
they were both lecturers in the Edinburgh
agricultural curriculum. Mr. Hunter was a
chemical analyst and lecturer on agricul-
tural chemistry and brewing science, and
Professor McAlpine was lecturer on botany
and botanical adviser to the Highland and
Agricultural Society of Scotland. Mr.
Hunter's researches into the mysteries of
the fermentation of beer naturally turned
his attention to the importance in such
chemical process of having present only
the proper forms of autogenous organisms and
when he and Professor McAlpine discovered
that the nodules on the roots of legu-
minous plants were the homes of colonies
of bacteria, it struck them that it might be
as important to cultivate in soils the right
forms of bacteria as it is to have the right
ferments in beer. By means of a
careful series of experiments they were
able to demonstrate that the bacteria of the
root nodules possessed the power of ab-
sorbing free nitrogen from the air, fixing it
and rendering it available for the nutrition
of the plant. The importance of this dis-
covery lay in the fact that whereas plant
life absorbs large quantities of nitro-
genous products from the soil, and these
are carried away in the crops and lost, they
are the most difficult and costly of the soil
elements to replace. The atmosphere, air
contains about one per cent of nitrogen,
parts out of four of nitrogen, but science
has not yet found an artificial way of catch-
ing and fixing it, although many persons
have expended much time and money in the
search. The nitrate beds of South America
and the ammoniacal products of the coal
gas retorts are the chief sources of the
world's supply of nitrates for agricultural
use outside of the baryard manure bed,
and these have not met the losses of the
fields. Millions of acres of lands have gone
barren for lack of nitrogenous manuring,
when all the other elements of plant life
were present in their soil. Could bacteria
be set at work making nitrates the great
problem of fertilization would be prac-
tically solved.

After their first discoveries, Mr. Hunter
and Professor McAlpine proceeded to carry

out an investigation regarding the nitrify-
ing bacteria. They found that there were
several well-defined sets of these organisms,
and succeeded in isolating and cultivating a
number of them. These did not all produce
nitrates in the same way or through the
same process, some of them being denomi-
nated dinitrogenous by the investigators,
while others were called nitrate bacteria.

The former did the nitrification under
cultivation, but the latter perished there-
for they could not induce the organisms to
produce nitrates in any of the ordinary
mediums of cultivation. Upon the addi-
tion of lime in the form of old mortar to
the culture medium, they found that the
bacteria produced nitrates. The practical
application of these observations appeared
soon in their lectures. They demonstrated
the plan then prevalent with many farmers
of applying heavy dressings of manure from
six to ten tons to the acre of hot lime, declar-
ing that the caustic lime killed the useful bac-
teria in the soil, and they recommended in
its place an annual or biennial dressing of
lime compost or carbonate of lime to the
surface soil, where it would aid the bac-
teria to produce the needed nitrates.

They also found that these lime com-
pounds in the surface soil served a further
important purpose by preventing the ab-
sorption of silicates from being taken up by
the roots of the plants, and thus making the
stalks of grain hard, brittle and lacking in
feed qualities. Their teachings met with
much opposition, and it was not until 1895
that Mr. Hunter got a chance to put them
to the test of practical experience. A Mr.
Drysdale, an old pupil of Mr. Hunter's, had
bought land agent at Dalmeny Park, and
began some experiments on his own book,
and finding these satisfactory, he interested
Lord Rosebery, and in the spring of 1895 a
well-equipped laboratory was set up and
Mr. Hunter was put in charge of the work.

Part of the station was devoted to testing
the relative productiveness of different
kinds of grain, potatoes and other crops,
and to bacteriological research, and the re-
mainder was worked as a miniature farm,
on the four-course rotation, each section
being subdivided into 16 plots, which were
all differently manured on a regular system.
In the first season the beneficial results of
a small dressing of ground lime were so
marked that the system of applying to
every field on the farm of an annual dress-
ing of four hundredweight of lime was
begun, and this has been continued ever
since. At first this was applied in a com-
pact form, but it was found that it could be
applied hot when the land was being
worked, as the quantity was not enough to
kill the bacteria, and it was rapidly con-
verted into the carbonate of lime in the
soil. The lime used was burned shale, me-
chanically ground to a powder. Besides
the good results thus produced by stimulat-
ing the production of nitrogen in the soil,
it was found that on land thus limed the
crops were much better where the sulphate
of ammonia had been used than on land
supplied with nitrate of soda. The experi-
ments have also emphasized the importance
of potash in the soil for every crop, and
particularly for the potato and other root
crops, and for the leguminous plants.

"With a moderate dressing of farmyard
manure, supplemented with four hundred-
weight of ground lime, applied at the time
of working the land, and followed by four
hundredweight of superphosphate, one
hundredweight of ferment-d bone, two
hundredweight of kainit, and one hundred-
weight of sulphate of ammonia," the writer

in the Nineteenth Century says, "The
Dalmeny home farm produces crops which
are the admiration of all who see them.
In recent years bacteriological science has
proved beyond the possibility of doubt that
in the great cycle of change from the or-
ganic matter in the soil to the elaborated
products which are absorbed by the roots
of the plant, the bacteria of the soil are the
great and indeed the only agents employed.
It is now a proved scientific fact that the
decomposition of organic matter in the soil
is due to bacterial action, to the action of
the various groups of soil organisms."

"It is also a proved fact that the wart-like
excrecences on the roots of leguminous
plants—clovers, beans, peas, vetches, etc.—
are the camping grounds of myriads of
bacteria which possess the property of
being able to absorb the free nitrogen of
the atmosphere, and render it available for
the use of the plant. Bacteriological science
has also proved that caustic lime will de-
stroy the nitrifying and other advantageous
soil organisms, whereas carbonate of lime,
such as is found in lime compost, is highly
beneficial to these advantageous soil or-
ganisms, and in fact a due proportion of lime
compounds in the surface soil, where these
organisms are found in greatest numbers
and in greatest activity, is absolutely es-
sential to the due discharge of their func-
tions. The bringing about, therefore, in the
soil of those conditions which favor the de-
velopment and action of those nitrifying
and other advantageous organisms is the great
aim and end of scientific manuring, for the
farmyard and artificial manures, applied to
the soil are not taken up directly by the
plants, but go in the first place to feed crops
of soil bacteria, which in turn provide the
highly elaborated materials to be absorbed
by the roots of the plant."

Potatoes as Food for Cows.

The editor of the Michigan Farmer com-
ments on the theoretical value of carrots,
sugar beets and ordinary beets as food for
stock, and remarking that he has no per-
sonal experience in feeding either, asks
whether potatoes cannot be substituted for
these roots, alleging that the potatoes are
much more easily grown, and would there-
fore be more generally used as stock feed if
they are as good as the roots named. There
are in these statements so many erroneous
ideas that we feel moved to reply. It is not
true that potatoes can be more easily or
cheaply grown than beets, either sugar or
the common fodder varieties. So the pre-
mise on which the question of substituting one
for the other falls. An acre of beets or what-
ever good, mangy variety, will yield three
to five times as much weight as most acres
of potatoes. And for feeding to cows, at
least, and we think for other stock also,
the beets are far preferable. Carrots are harder
to grow than either beets or potatoes, and
they require more hand work in weeding
while small. But an acre of carrots will so
far outyield the potatoes that the money
cost per bushel is less for the carrots.

In the table of nutritive value which the
Michigan Farmer publishes, carrots are
rated two per cent of fat, while both sugar
beets and beets for fodder are rated at only
one per cent of fat. But whatever chemical
analysis may show as the percentage of fat
in potatoes, it is practically nothing when
it comes to butter making. The cream
from milk from cows fed on potatoes is
white, waxy and without the grain that the
best butter should have. Feeding cows

with beets causes them to give a great
amount of milk, and it makes fair, good but-
ter. But the cows also need some corn meal
or other grain feed to increase the butter
fat. Feeding the carrots makes the milk
increase in quantity, and it will be rich
milk, making a yellow-colored butter even
in winter if fed with cornstalks and a very
little corn. Of all the roots grown carrots
and parsnips are the best of all roots to feed
to milk cows. They are largely fed in the
channel islands, and it is possibly this
feeding on excellent food, combined with
the mild winter that prevails there, that has
helped develop the milking qualities of
Jersey and Guernsey cows.

Potatoes are poor feed for cows, or, unless
cooked, for any other stock. Except a few
to keep the bowels loose, they are not good
even for fattening stock. Two years ago,
when there was an immense crop of pota-
toes almost anywhere, and the price went
so low that the potatoes did not pay to
draw out of the pits, many farmers tried to
get something out of these potatoes by feed-
ing them. We cautioned them not to feed
potatoes to milk cows. Those who fed
them to any kind of stock found that, ex-
cept in small amounts, they were more
likely to do harm by causing scours, and
that they were worth very little per bushel,
even if fed with the greatest care.

Practical Sheep Husbandry.

As a rule sheep do not need ground feed.
They have excellent grinding apparatus
provided by nature, and if they are fed in
the way which is consistent with their
natural habits of feeding, they will do the
best.

Too much warmth is infinitely more
mischievous to a flock in the winter than
too much cold. Lincolnton teaches sheep to
protect themselves against cold in the
winter by huddling together, but there is no
way of escape against overheating by over-
feeding.

There are many things always to consider
in regard to a flock. But at the outset of
winter there are many things to think of
that are especially important. Sheep are
kept for three purposes—the fleece, the
lamb and the carcass, which some time
must go to the market.

Nature provides the sheep with a suf-
ficient coat to keep them warm in the coldest
weather. But this protection, it is to be
understood, is only against dry cold; wet
with quite a moderate temperature will chill
an animal which will withstand zero tem-
perature in the dry and still atmosphere.

A dry foot and a dry back are paramount
necessities for a sheep at any season of the
year. It will not do to overcrowd sheep in
a close stable. This immediately makes
mischief, first by causing disease of the skin,
by which the wool is loosened, and the
lungs become disordered by reason of the
great change of temperature between day
and night.

In the feeding of sheep, regularity is most
important. The restless habits formed dur-
ing years past has done untold injury to
our agricultural interests. It has not only
sacrificed flocks of valuable sheep, but it
has demoralized the people, until many feel
like old John Randolph, who once declared
he would go ten miles to kick a sheep.

Sheep are naturally herbivorous, and
mischief is frequently done by overcrowd-
ing them with grain, when their digestive
apparatus is suitable only for herba-
ceous fodder. Grain-eating animals do
not need a large stomach, nor a series of

them, for the gradual reduction of the hard
and concentrated food to soluble pulp.
Doubtless the majority of sheep lost during
the winter feeding season die on account of
a misunderstanding of this natural con-
dition and requirement. Bulky food is es-
sential to a herbivorous and ruminating
animal.

It is rarely considered that water is far
more important a matter for consideration
in the winter than it is in the summer.
Sheep that are feeding on dry food are de-
prived of three times the weight of it
which they get when on pasture. Ten
pounds of green grass has eight pounds of
water in it, while as many pounds of hay
has but one pound of water in it. If, then,
sheep on pasture will drink, which they
will do frequently in the summer, how
much more is it necessary that water should
be supplied sufficiently in the winter.

The times between seasons are the most
exacting for the safety of the flock. Sheep
well summered are half wintered. For any
want of condition just now is rarely ever
repaired, but brings disaster. Good care
even now may repair some mistakes if time
is not lost. The flock should be carefully
examined and sorted out into ranges, as the
conditions may vary. Then the treatment
should be judiciously varied as circum-
stances may require. Some of the things
which need careful nursing, and for this a
suitable building should be provided, where
this attention may be given. It will be an
excellent thing to provide a good supply of
what we call the tonic mixture.

Sheep are not robust animals. On the
contrary, they need every possible attention
and conformity with their habits and
constitution. This is most applicable to
their feeding. They are naturally
adapted, as to their teeth and digestive
organs, to short, fine food. To graze on
short herbage and to clip the tender shoots
of bushes is their vocation. Hence the
roughness of their coat is not desirable, or
even suitable for them. It will not do to
throw a bunch of stalks of corn to sheep, as
it may do for cattle or horses. The blades
of corn, even, are too rough fodder for
them. The best possible dry feeding of
sheep is early out, tender clover hay, the
addition of sliced roots. This is the best
possible dry, coarse feeding for the winter.
Ewes may be kept in the best condition on
this food without grain.—American Sheep
Breeder.

Milk Preservatives.

Look out for the man with the patent
milk preservative.
There are various agents now abroad in
the land selling "Preservative," "No-
needed," "Preservative," "Liquid Milk
Sweet," and several such nostrums in-
tended incidentally to keep milk from
souring, and primarily to gather in the
farmer's loose change.

In all those several cases which have
been reported to the Vermont Experiment
Station the chemical basis of the preserva-
tive is the same. It is formaldehyde—
formalin—a powerful disinfectant and
germicide, but not a desirable article of
diet for the human species. It is not
strictly and seriously poisonous, but it is
held by all the best authorities to be harm-
ful to the digestive system.

It is the same material now largely in
use in creameries for preserving samples of
milk for testing. It will certainly keep
milk from souring; and it thus enables the
stupid dairyman to cover up many of his
worst negligences. It leaves him free to

enjoy the filth of an unclean stable, to save
himself the trouble of cleaning his cans, to
be as loose and lazy and wicked as he
pleases.

This is not to say that the man who uses
Preservative, Formalin and the like is neces-
sarily that sort of a fellow; but these
chemicals do protect him from the results
of negligence and ignorance, and seem, to
the unprejudiced observer, to offer the care-
less milkman an undeserved salvation
from his sins.

American Corn Abroad.

The growing popularity of American corn
in all parts of the world is illustrated by the
November statement of exports of bread-
stuff, just issued by the Treasury Bureau
of Statistics. It shows a larger quantity of
corn exported in the 11 months ending with
November, 1899, than in the corresponding
months of any preceding year, and at a
higher rate per bushel than in any year
since 1895. The total exports of corn in the
11 months ending with November, 1899, were
185,833,659 bushels, valued at \$74,743,137,
while in the corresponding months of last
year the 185,284,310 bushels exported only
brought \$68,513,147, the average export
price in the 11 months of 1899 being 40 cents
per bushel, against 37 cents in 1898 and 31
cents in the corresponding months of 1897.

That the growth has been steady and
rapid is shown by a comparison of the fig-
ures of 1898 and 1899 with those of 1897 and
1894. In 1897 the exports of corn in the
eleven months ending with November were
48,602,183 bushels and in 1894 37,910,233
bushels, the total for 1898 and 1899 being
more than four times as much as that of
1893 and 1894. In corn meal the growth is
equally rapid, the exports during the eleven
months of 1893 and 1894 being, respectively,
238,941 and 287,064 barrels, while in the
eleven months of 1898 the figures were
773,483 and in 1899 798,111 barrels.

Most of the corn exported goes to Europe,
and its popularity seems to be gaining
there. To the United Kingdom the ex-
ports of corn in the ten months ending with
October were in 1899 69,332,800 bushels,
against 51,520,167 bushels in 1898; to Ger-
many, 35,804,109 bushels in the ten months
of 1899, against 34,888,831 in the ten months
of 1898 and 27,472,388 bushels in the ten
months of 1897; to France the exports in
1899 were slightly less than those of 1898 or
1897, by reason of the unusually large grain
crop in that country, while to other Euro-
pean countries the exports of corn in the
month of 1899 were 42,505,443 bushels,
against 39,211,885 in 1898 and 38,868,388 in
the corresponding months of 1897.

This steady increase in the exports of
corn to European countries, and especially
the increase in 1899 over preceding years, is
the more remarkable because of the fact that
the general supply of breadstuffs in Euro-
pe has been unusually short, and the supply
was unusually short, and the fact that the
demand for corn continues in the face of an
increased supply of home-grown breadstuffs
indicates a rapid growth in its popularity.

Western Live Stock Feeding.

The profits of stock feeding in the West
promise to be much better than many
stockmen anticipated early in the season,
and the cattle industry was never in bet-
ter shape than this season. Several
things have contributed toward this state
of affairs. One is the abundant corn
crop and another the fine weather which
gave the grass time to cure well for all
feeding purposes. The stock has conse-
quently come up to the winter season in
fine condition, and they ought to winter
well with a reasonable amount of care.
There were plenty who were sceptical
about the success of the business early
in the season because of the high prices
for feeders, and some did not make the
purchases that a little more confidence in
the situation would have advised them to
do. Those who made liberal purchases
have found their profits surely coming to
them. The open condition of the fall made
the cost of feeding the stock exceedingly
small, and now, with corn as low as 22 cents
per bushel for feeding, there is no chance
of losing. Thousands of dollars were actu-
ally saved the stock feeders by the lateness
of the fall and the green grass which con-
tinued well up to winter.

All of this is giving to the stock business
a boom that is sure to carry prosperity
to thousands interested in cattle. It will
be some time before the boom subsides,
and meanwhile the stock feeders and
breeders will make the most of the situa-
tion. Sheep have also proved a great
boom to their owners. Wool continues to
soar upward, and from present indica-
tions the clip will make enough profit to
many thousands of farmers to more than
offset their losses in the past few years.
How strange this all seems when we con-
sider the prophecies of utter ruin to the
sheep industry in this country made a year
or two ago! Here we are actually in the
midst of dollar wool, and raisers can hardly
supply the demand for sheep. Everybody
is anxious to add more sheep to the flocks,
and they are not yet back to back with
the slow process of breeding.
Will it pay to continue breeding more
sheep and cattle in view of the downward
tendency that nearly always follows a
boom, and the fact that everybody else is
adding more to their flocks and herds as
possible? Assuredly it will if we hold fast
to conservative methods. Do not breed
more than you can handle and feed con-
veniently. Up to that point you are just
in getting as many animals as you can
care for.
E. P. SMITH.

Father Kennedy, Danbury, Ct., has
bought a Mule Wagon (2194) and will
drive her on the road.

AGRICULTURAL.

Live Stock Notes.

The Journal of Agriculture of Canada publishes an abstract of a lecture by Mr. D. M. McPherson, who tells how he grows and fattens pigs. Two cents a pound live weight. We condense it somewhat, for the information of our readers.

The best pigs are a cross between the Berkshire and Yorkshire. They are most easily fattened. They are weaned at seven weeks old, and kept in the house three or four weeks longer before being turned out. From 30 to 40 of them can be fed on an acre of clover, resulting in addition a half pound of grain a day each, which is gradually increased to three pounds a day. They are kept in this way until they weigh 150 pounds each. They have plenty of lean meat, or muscle, and can be made to weigh 300 pounds each at seven months old, when it is time to slaughter them. The clover fields should not be of over two or three acres, as not more than 70 to 80 pigs should be in one field.

The clover is sown as soon as the snow goes, using 12 pounds of seed to the acre. The night frost and morning thaw cover the seed, and when warm weather comes it grows rapidly, and it is ready for the pigs when four inches high. The acre of land grows 6000 pounds of pork, which at two cents a pound gives \$1200 an acre for the clover crop, and it leaves the land in the best of condition and well manured for the later crops in the rotation.

A firm in South Dakota went into sheep raising three years ago, buying 1500 head. As they have not sold a sheep they now have 4500 head, and they have sold wool enough to pay all the expenses of keeping them. The sheep have doubled in value or nearly so per head, and as they have three times the number they began with, the stock represents nearly six times as much money as they invested. They have now five two year old wethers, but think it pays better to keep them and sell the wool than it would to sell the sheep.

The importance of keeping cattle comfortable if we would have them thrive is well illustrated by a story told by Mr. John W. Hayes of Wisconsin, in an essay on "Baby Beef and Slaughter," which has been delivered at some of the Western Farmers' Institutes. He fattens steers to turn off at less than a year old, and claims to make a profit of \$10 per head after charging all feed at market prices. He weighs them every month, and when he did so one month he found one steer which had gained but 10 pounds, while the others had gained from 40 to 75 pounds each. He seemed to eat as well as the others and to be thrifty, and he thought the record of the previous weighing must be wrong. At the end of the next month he was weighed again, and he had gained 15 pounds, while the others had made the same gain as before. Then he began to look for the cause of the trouble, and he found that his stall floor was not level, so that the fore legs of that steer were strained a little as he stood there, though not enough to hurt him. This was remedied at once, and the next month showed a gain of 90 pounds. Mr. Hayes thought that the little uncomfortable position had cost him about 150 pounds of beef.

We fear that the demand for wool will lead many to try another year to get back into the lines of heavy woolled sheep, by crossing their flocks with such. We hope not, for we think the mutton breeds are even yet the most profitable and are likely to remain so. There may be places where the fine-wooled or the long-wooled sheep are the best, and if there are, those who have them know it. But for the average farmer and keeper of small flocks we think the mutton breeds and their grades on the Merino are much the best. They have a good fleece, a good carcass, and a strong constitution, and they will give a profit when they are sheared, when there are sold, and when the old sheep are fattened. Those who have begun to grade up their flocks with a male of pure breed should not change excepting to get another and a steer one of the same breed. A half breed may be very well and a three-quarter breed may be better, but a half and a three-quarter breed are a mongrel, and in a flock of them most will be scrubs of the meanest sort.

When the grade of cattle known as "stockers and feeders," or cattle well grown but not well fed, sell at prices varying from \$2.40 to \$4.50 per hundred pounds, or a difference of \$21 on a steer weighing 1000 pounds, it means that there is great difference between the best and the poorest animals; a difference not only in their readiness to take on fat when well fed, but a difference in shape or build, and in whether the extra flesh put on them will be in what are called the choice cuts that sell at a high price or the cheaper parts of the animal. What causes this difference? It is in the breeding of the animal. A pure bred bull and cow of the best breeds turns out a calf of the right shape and with a feeding quality. The pure-bred bull mated with a scrub cow may inherit the qualities of the stock which has for many generations been bred and fed with a view to beef qualities, but from the scrub bull and the scrub cow there can be but a scrub calf, and neither feed nor care can make him anything but a scrub steer that must be sold at a low price.

The Western and Southern farmers are learning this lesson, as may be seen by the sales we have occasionally reported of pure bred bulls at hundreds or even thousands of dollars each. It seems extravagant price, but when we add \$21 to the value of every animal bred from them when it is two years old, and \$30 or \$35 to the value of each one when fatted for the butcher, the money comes back quickly and with a good interest. The fat cattle that sold at \$4.50 per hundred pounds have eaten but little more than those that sold at \$2.40, and they weighed more pounds. The scrub bull must be banished from our stock-breeding farms, and the price of the registered animal will go higher.

Dairymen's Convention.

The New York State Dairymen's twenty-third annual convention began on Thursday, Dec. 14, at Corland, N. Y., for a three days session. There were large exhibits of butter, and cheese, and also of the most modern dairy utensils and materials for dairymen's use, as well as a colorful, etc. The meetings were well attended, and the interest seemed to be great, as it should have been, as the speakers on the list were among the best of the well-known experts in the dairy business.

The morning session of the first day was devoted to the address of welcome and reply, the address by the president and transaction of business of the association, and an address by ex-president J. S. Shattuck upon dairymen's mistakes. Of these he said: Some of the most common mistakes of dairymen are the fact that they do

not always make the best of what they have under the circumstances. Another is that farmers often try to keep too many cows. Better keep fewer cows and keep them well than try to keep more.

Farmers should raise more of their own cows and not depend upon buying them. A good dairy cow can be raised cheaper than one can be bought at present prices. He referred to the change brought about in dairy affairs by shipping the milk instead of making up the product at home as in early days.

The President spoke upon "Dairy Reform," and called attention to the fact that during the last few years observing farmers have come to know that better milk, better butter, better cheese must be furnished to the consumers at less money, or the wheels of progress would run down. Dairymen who kept books found on the first day of January that the cow that had given milk only six months out of 12, and had given an aggregate of only 2500 to 3000 pounds at that, had not paid her board. Map, the greatest product of nature, set out to determine how he could better things.

Improvement has come along several lines. The first is economy of production. The product of the dairy must be put on the market at less cost to the producer. Invention came in here to help the dairyman. Next comes the banishment of "filthiness" next to goodness. There must be no carelessness in farm management. A greater variety of products had its place in helping out the farmer. New markets have been found. It is the duty of the State Dairymen's Association to walk in the front rank and to occupy the advance line of dairy progress. It is unalterably opposed to all kinds of vicious substitutes and fraudulent imitations of honest dairy products. We should invite and encourage the co-operation of other States in cutting this plague spot from the body of our dairy industry.

The afternoon session was devoted to the opening of the question box. Among the questions which seemed to awaken most interest were the two following:

A man with limited means desires to improve his breed of cows. Which is better for him, to buy a thoroughbred sire, to buy high-grade calves or to purchase thoroughbred cows. The discussion which followed indicated that the best method under the conditions of the question would be to purchase a thoroughbred sire. Quicker returns might be obtained in other ways, but the cost would be correspondingly greater.

What is the cause of abortion in cows, and what is the remedy? The causes are manifold. Many cases come from injury. It may also be due to improper feeding, by the use of ration which do not contain sufficient of the albuminoid foods. There are many causes besides these, none of which can be depended upon in all cases. Professor E. H. Wing of Cornell University presented a paper upon "The Condition of Cheese and Butter Factories in New York State," based upon replies received from 143 factories, to a circular of questions sent them. From these replies he thought that while in no one case were conditions and surroundings entirely satisfactory, the general condition might be called good.

There are many ways and opportunities for improvement, and while much has already been done there still remains much to be done along this line. At the farm, in the care of the milk before taking it to the factory or creamery, in the surroundings of the factory, in the manufacture of the butter or cheese, and in the care of the finished product, attention to the minutest details is absolutely essential to insure the best and most satisfactory results. In too many instances there exists a carelessness in reference to these details.

He was followed by ex-Gov. W. D. Hoard of Wisconsin, who contrasted the conditions in that State when he went there, 42 years ago, and those of the present day. Then grain farming was the principal occupation, and there was no dairying. The land grew poorer and the crops less. Since dairying had received more attention, there has been a gradual but marked change. The value of farming land has increased from \$10 to over \$80 per acre, and Wisconsin has taken a front rank in dairying business.

He exhibited charts of famous cows of the dairy type, and explained them and the different points.

The speaker pointed out the characteristics of the dairy cow: A large muzzle, large nostrils, a full, protruding eye, head long, indicating large brain, neck flexible and thin, strong jointure of head to backbone, processes of backbone wide, pelvic arch prominent, great digestive capacity.

Concerning the care of cows the speaker said that a dairy cow worth having is an artificial product, and must be treated as such. Give her plenty of fresh air and sunshine, well-ventilated stables, and good, wholesome food. In short, be a modern dairymen.

The address throughout was full of practical illustrations, which added to its general interest, and made more clear and forcible the technical points which the speaker desired to impress most forcibly.

In the evening session the first question asked was concerning the ventilation of cow stables, a question important to every dairymen. H. E. Cook of Denmark held forth on this subject, and declared that without cracks and crevices for cold winds and draughts to get in. It is ordinarily cheaper to warm the cow with hemlock boards than corn meal, though the high price of lumber this year has brought it about that there is little difference between the two. Still the effect on the cow is better to this end from boards than meal. But tight stables call for abundant ventilation. Do not cut a hole in the roof or make use of a copola through which the warm air can escape and leave the cold pure air to be breathed in, but make a system of ventilation, Mr. Cook then described in-take and out-take tubes. An out-take tube should take the air out from next the floor of the stable and the tube should extend above the top of the barn, so that foul air can be drawn out as through a chimney. An in-take tube should take pure air from the outside and bring it into the stable near the ceiling.

He was followed by Dr. W. H. Jordan, director of the experiment station at Geneva, who spoke upon "Cattle Feeds" and their adulterations. He showed them how to detect some of these adulterations, while for others they must depend upon a good analysis, and punish him if his goods are not up to the standard claimed for them. He also warned them against the use of patent and proprietary feeds, as not having a value comparable to the selling price.

He was followed by Miss Anna Barrows of Boston, who advocated the use of "Dairy Products" as substitutes for meat, referring to the digestible value of both milk and cheese and comparing the little waste in cheese to that in meat. She also showed the many ways in which cheese could be used in cooking.

Friday morning the address was by Franklin Dye, secretary of New Jersey tuberculosis committee. He pointed out the close connection that must exist between the health of the 1,500,000 cows in New York State or the more than 16,000,000 cows in the United States, and the health of those who consumed the products of the dairy. It is a duty to have a common-sense law, intelligently enforced.

The New Jersey law has been in operation about five years. In the enforcement of the law the commission has always endeavored to be considerate and its enforcement has been an education to the farmers of the State.

Some of the defective conditions found to exist which tend to produce tuberculosis in cattle are the following: Too many animals kept on limited floor space, improper ventilation, deficiency of light, damp stables, improper bedding and feeding, putting healthy animals into polluted and contaminated stables, keeping diseased animals in the same stables with the healthy ones and a failure to properly disinfect.

There was a practical address by J. Van Wagner on the "Model Creamery Butter-maker," and another by George A. Smith, dairy expert at the State Experiment Station at Geneva upon "Problems in Cheese Making," but their character was such that they would suffer by condensing to the space we have. We may refer to them later.

Saturday morning's address was by Mr. E. B. Voorhees, director of the New Jersey Experiment Station, upon "Progressive Dairy Farming."

Mr. Voorhees contended that progress is needed not only in one line of the dairy business, but in all lines, and that the consumer as well as the producer should be better informed in the matters of good dairying. There are two essentials for progress: first, reduce the cost of production, and second, increase the quality of the production. Of the kinds of materials to be fed, Mr. Voorhees spoke at length, and impressed the point that not only the kind of food should be the study of the dairymen, but the condition of the food when fed should receive attention. The farmer should not feel his duty done till the milk is in the hands of the consumer. Three things are necessary to produce a dairy article that will sell itself: First, cleanly animals; second, cleanly barns; third, cleanly farm help. With these sales would reach new customers and increase the consumption of old ones.

The dairymen were requested to remember the coming exhibitions of dairy products at Buffalo, N. Y., and at Paris. Then Mr. George L. Flanders of Albany spoke on the oleomargarine laws, and thought New York was most free from oleomargarine of any of the States. He opposed the 10-cent tax on oleo.

A series of resolutions were passed, which, beside the usual congratulatory and commendatory matter, declare them to be in favor of petitioning the Legislature to remove the control of bovine tuberculosis from the State board of health and vest it in the State Department of Agriculture; also to enact laws to better prevent the spread of this and other infectious diseases. Also to request Congress to pass a law that when food products pass from one State to another, that it shall be subject to the laws of the State to the same extent as if manufactured there. Also for a law to prevent or punish false branding of dairy and food products as to the State in which they were made.



CHAMPION SHORTHORN STEER PRINCE CHARLIE.

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Butter Market Quiet.

There has been but a light trade in butter the past week, as with prices running steady dealers have not bought more than enough for immediate wants so near the close of the year. There seems to be demand enough for the amount of butter coming forward, and there may be more selling of oleomargarine in some of the States to reduce the consumption of butter. We do not learn of any increase in production in any section. The best Northern and Western creamery sells at 27 cents, with some fancy lots at 27 1/2 cents. Fats are in fair demand at 24 to 25 cents; and seconds from 20 to 22 cents. June creamery in fair demand at 24 to 25 cents, and some small lots strictly fancy bring 25 1/2 cents. Low grade dairies steady at 15 to 16 cents, with seconds at 18 to 20 cents, and firsts at 21 to 22 cents. Im-mation creamery 17 to 19 cents and ladies 16 to 18 cents. Boxes and prints quiet at 28 cents for extra. Northern creamery, and 27 for Western, with dairy at 35 cents, common to good at 30 to 32 cents.

The receipts of butter at Boston for the week were 11,026 boxes and 34,738 boxes, a total weight of 623,451 pounds, against 659,412 pounds the previous week and 715,728 pounds the corresponding week last year. This shows a slight decrease as compared with the week previous and last year. For the two first days of this week receipts continued light.

The exports of butter from Boston for the week were 22,121 pounds, against 209,405 pounds the corresponding week last year. From New York the exports were 30 packages, and from Montreal, by way of Portland and St. John, N. B., 3,888 packages.

The statement of the Quincy Market Cold Storage Company for the week was as follows: Put in 207 tubs, taken out 7387 tubs; stock 61,778 tubs, against 64,217 tubs same time a year. For the corresponding week last year no butter was put in and 8436 tubs were taken out. The Eastern Company reports a stock of 2448 tubs, against 8770 tub,

same time last year, and with these added the total stock is 64,326 tubs, against 83,996 tubs last year.

New York Retail Markets.

Fine Philadelphia capons are 30 cents a pound, turkeys from 14 to 18 cents, roasting chickens, 12 1/2 to 18 cents. Geese are from 12 1/2 to 30 cents a pound, ducks 14 to 16 cents. Broilers are \$1 a pair, squabs \$3 a dozen, pigeons \$1 50 a dozen, wild ducks \$1 to \$5 50 a pair, quail \$3 a dozen, partridges \$2 50 a pair.

Brussels sprouts, celery, cauliflower and cabbage are the best vegetables to be found in the market. Beans are 20 cents a quart and fine. Peas are high and poor. They are nearly gone for the season. Lettuce is 10 cents a head.

Concord and Delaware grapes, contrary to their usual custom, continue to appear, and can be bought for 30 cents a basket. Few pomegranates are left in market. Japanese persimmons can be had for five cents each.

Knives from Africa have arrived in native grass baskets at 40 cents a pound.

English fibbers are 50 cents a pound, pine nuts 40 cents, Brazil cream nuts 25 cents, large Texas pecans 50 cents, hickory nuts 25 and 30 cents.

Household tomatoes are 40 cents a pound; grape fruit \$3 and \$4 a dozen, quinces \$1 a dozen, pomgranates \$1 a dozen. Fresh Columbia River salmon and Florida shad are novelties in the fish market. The former sells for 35 cents and the latter for 50 cents a pound. Weakfish are 10 cents a pound, flounders 8 cents, butterfish and bluefish 15 cents; whitebait, smelts, mackerel and bass are all excellent; green turtle is 18 cents a pound, lobsters 15 cents, scallops 15 cents, and frog's legs 15 cents.

The average weight of fresh prunes to make one pound of the dried fruit is 3 1/2 pounds. The prunes contain more sugar and less water this year, and only 2 1/2 pounds are required, less weight being lost in drying. The prunes which are coming from the Pacific coast are larger and of much better quality than usual. French prunes have just arrived and are selling at 65 cents a pound.

There will be a larger Texas strawberry crop this season than usual. Low prices in poultry and high prices in fish are features of the market this week. Kumquats is one of the fruit novelties. It is a small oblong fruit, something like an orange, and is used for salads. It is also employed for preserves.

Government Crop Report.

The Statistics of the Department of Agriculture reports the wheat crop of the United States for 1919 at 547,300,000 bushels, or 12 1/3 bushels per acre. The production of winter wheat is placed at 291,700,000 bushels and that of spring wheat at 255,600,000. Every important wheat-growing State has been visited by special agents of the department, and the changes in acreage are the result of their investigations.

Six thousand acres of rich soil. Natural advantages cannot be excelled.

Improvements of such a high class that it would be difficult to better them in the United States.

Immense expenditures to make it a model place.

6000 Acres of Rich Soil.

Not a point for unfavorable criticisms. In one of the richest valleys in California. Within thirty miles of San Francisco it is protected by the Contra Costa Range on the west from the trade winds, and the climate could scarcely be improved for breeding fine stock of all kinds.

A natural park, beautiful by the skill of famous Landscape artists. Grand trees, the growth of centuries. Flowers and rare shrubbery in profusion.

STOCK FARM FOR SALE

Finest and Best Appointed in California

While, of course, the value of such a property is large, the price put on it will ensure the purchaser a "paying investment."

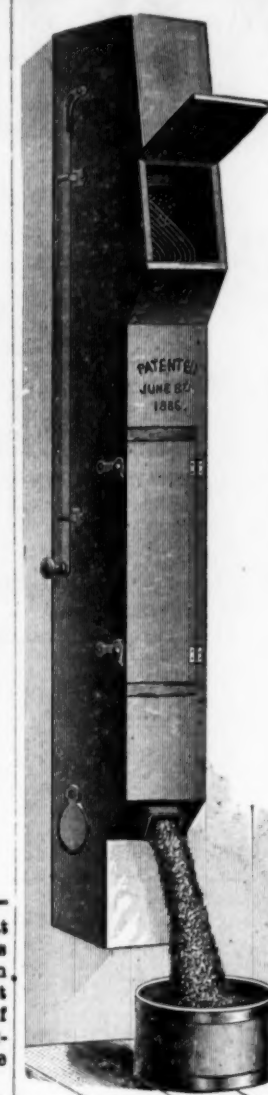
Here is an exceptional opportunity as an investment for one or more gentlemen, and is worthy careful investigation.

Two Hundred Head of Cattle

Two hundred head of cattle, the finest specimens of the finest breeds.

The buildings are in keeping with the rest of the establishment, in the best possible order, nothing lacking in the way of implements to conduct the business in all its branches.

JOS. CAIRN SIMPSON, 2111 ADELINE STREET, OAKLAND, CALIFORNIA



Not one quart of oats can be drawn without being cleaned. This is the most perfect Grain Purifier ever known. Cannot get out of order and will last for years. No power necessary. It saves sickness among horses, money, time and trouble. Farmers should use them to remove weed seed, dust and impurities before planting grain. The oats are cleaned as they pass through the Cleaner. All Private, Livery, Boarding, Teaming Stables and Stock farms should have them.

Price for Standard Size, \$18.00.

BROAD GAUGE IRON WORKS

FRANK O. WORTHLY, Prop'r.

No. 53 ELM STREET, Boston, Mass.

STATEMENT OCT. 31, 1899, of the

Mercantile Trust Company

Water, cor. of Congress St.

JONAS H. BENNETT, President. JOHN E. GILCHRIST, Treasurer. ANDREW W. PRESTON, Vice President. FREDERICK T. MONROE, Secretary.

ASSETS.

State of Mass. Bonds at par.....	\$50,000.00	Capital stock.....	\$250,000.00
Railroad bonds.....	66,235.00	Surplus fund.....	170,000.00
Miscellaneous bonds.....	62,175.00	Earnings undivided.....	51,918.00
Miscellaneous stocks.....	1,250.00	Deposits.....	
Loans on real estate.....	134,875.00	Subj. to check.....	3,017,000.00
Loans to corporations.....	346,511.39	Certificates of deposit.....	980.00
Time loans with collateral.....	496,919.18	Certified checks.....	54,883.00
Demand loans with collateral.....	1,607,711.77	Treasurer's checks.....	10,134.00
No. of dividends or firms.....	504,707.72		
Expense account.....	10,855.95		
Overdrafts.....	395.34		
Cash.....			
In (U. S.).....	164,622.36		
In bank.....	805,315.16		
	\$9,493,764.66		\$9,493,764.66

LIABILITIES.

NATIONAL SHAWMUT BANK

60 Congress Street, Boston.

Condition at the Close of Business October 31st, 1899.

Resources.

Loans.....	\$20,785,517.04	Capital.....	\$3,000,000.00
U. S. Bonds, etc.....	4,211,951.50	Surplus and undivided profits.....	1,657,740.34
Due from Reserve Agents.....	3,343,868.12	Dividends.....	2,054,050.00
Due from other Banks.....	1,760,281.35	Deposits.....	27,456,781.82
Exchanges for clearing.....	2,475,131.14	U. S. Bond account.....	2,660,160.00
Cash and 5 per cent. Fund.....	4,316,883.00	Reserve for taxes.....	64,800.00
	\$36,893,632.15		\$36,893,632.15

JAMES P. STEARNS, President. WALLACE S. DRAPER, Assistant Cashier. FRANK H. BARBOUR, Cashier. HENRY F. SMITH, Assistant Cashier.

W. F. CLOUGH, GEORGE M. CORMAN, EDWARD D. COWMAN, JOHN A. DEAN, WILLIAM A. GASTON, DANIEL B. HALLET, EDWARD H. HAYDEN, HENRY L. HIGGINSON, ALFRED S. WOODWORTH.

Accounts of Merchants, Trustees, Firms, Corporations and Individuals respectfully solicited.

AN UNLIMITED SUPPLY OF PURE WATER.

A reservoir of thirty-five millions of gallons, and the distribution, carried into every field, paddock and stables by eight miles of pipe, is perfect.

Hundreds of Acres of Planted

Hundreds of acres of planted, all kinds of fruits, olives, almonds, in fact, all of the productions of temperate and semi-tropic zones flourish. Apart from its adaptability to produce all the crops which are grown in California, it is eminently a beautiful place. Grand scenery. A country house which will vie with the famous establishments of Europe.

Four hundred horses of the finest breeds. Sires and dams of champions, and an examination of the stock will prove its adaptability, the horses from weanlings to aged, robust, of high form and beauty, scarcely one on the invalid list.

Four Hundred Horses.

Perfect Training Grounds. The track, "regulation shape," a mile in circuit, is as good as any in the State. The proprietor intends spending several years abroad, and offers without reserve, all stock, implements, tools, furniture, everything on place except personal belongings, and this is his only reason for selling a place which has no equal, all things considered, of any like establishment in this hemisphere. For further information address

POULTRY.

Fastening and Finishing Foods for Poultry.

When brought almost to the proper age for market the fastening of poultry is often the determining factor for the sale of the birds. In the city markets we see in the first-class poultry stores such alluring signs as "ripened turkeys," "chickens," "fatted poultry," and similar ones. Not always are these poultry fed with sufficient rice or chestnuts to make them specially tender or well-favored, but they go to show the tendency toward finishing off poultry with extra food. All such poultry command the highest prices, and frequently they sell at a premium. While it may not be wise to advocate rice and chestnuts as general food for turkeys and chickens, it is well to consider the importance of plumping the birds up with the best sort of food consistent with profitable feeding.

Soft food is always better for this purpose than hard. Uncooked or even cracked corn fed will not give nearly as good results as cornmeal warmed or moistened with milk or water. In England and France the poultry raisers who send their products to the best markets use buckwheat meal, barley meal or ground oats mixed with skim milk.

The selection of these different foods is not much a matter of choice as that of cost. All three of these foods are well supplied with fattening qualities, and fed under the right circumstances they will produce excellent results. Ground oats make probably the best food for the poultry as a steady diet, for they contain a good deal of fat and phosphorus.

The phosphorus has a tendency to whiten the flesh of the poultry, and while white meat is better than yellow or dark-colored meat, this is a desirable point to remember. But for the final finishing off of the turkeys and chickens the buckwheat meal is about as good as any. If the poultry are fed this meal exclusively for a long time, it will darken the meat, but for finishing off it imparts a certain gamy flavor to the flesh that many like. It is very strong in carbohydrates, and contains a fair amount of albumenoids and fat. It is better when the husks are taken often and the meal ground very fine, and possibly mixed with some ground oats. A little quantity of sifted barley meal is put in the buckwheat meal by some poultrymen, because it acts as a little stimulant to the stomach and improves the digestion of the whole mass. Skim milk is the best substance for mixing with all of these foods.

Let the skim milk stand until it has soured, and then mix with the meal. This sour milk has the very excellent effect of improving the white flesh, and brings about upon a daily diet of skim milk and meal a very soft, white flesh that makes them dress well for the market.

In the vicinity of creameries, where skim milk is very cheap, there is no better way of using it up than to feed it to the chickens in connection with some fattening meal. In high feeding the stomachs of the birds will give out unless care is exercised, and sour skim milk is easier for them to digest than either sweet skim milk or whole milk.

ANNIE C. WEBSTER

Poultry and Game.

Receipts of poultry have been light this week, nearly 10,000 packages less than for the same week last year. The experience of those who handled it at Thanksgiving time was discouraging, and the warm weather has unfavorable results. There will probably be a better supply the last of the week. There are not many Northern turkeys here, and a few of the best bring 17 cents, but 16 cents is a more general price for choice young birds, while fair to good are sold at 15 to 16 cents. Geese are firm, and in fair demand at 11 to 12 cents, and ducks stand at 10 to 12 cents. Northern and Eastern choice roasting chickens 15 to 16 cents, and fair to good at 15 to 16 cents. Fowl, best at 12 cents, and fair to good at 10 to 10 cents. Western dry-packed stock is lower. Good to choice turkeys are 11 to 13 cents, with others ranging from 9 to 10 cents. Western ducks 8 to 11 cents and geese 8 to 10 cents. Choice chickens at 11 cents, and others at 10 to 10 cents. Fowl 9 to 10 cents, and old roosters 6 cents. Live poultry in smaller supply with little demand. Chickens and fowl at 9 to 10 cents, and old roosters 5 to 6 cents. Pigeons \$1.50 a dozen, squabs from \$1.50 to \$1.75 a dozen for small and \$2 for mixed lots, up to \$2.25 for selected large.

The receipts of game have not been large generally, and about the same. Grackles and partridges go from \$1 to \$1.25 a pair, with a few extra partridges a little higher. Good quail from \$1.25 to \$1.75 a dozen. Wild ducks scarce, canvas backs \$1 to \$1.50 a pair, redheads and black ducks 75 cents to \$1, with mallards at 75 cents. Coots, mall, and other small ducks 30 to 50 cents a pair. Rabbits are rather plenty but still fairly well at 12 to 15 cents a pair for Western, and 15 to 18 cents for E. stock. There is only a moderate supply of venison. Whole deer at 10 to 13 cents a pound, and saddles 15 to 17 cents. Choice coon 25 to 30 cents a pound.

Horticultural.

Winter Muskmelons.
The Department of Agriculture has introduced into this country a winter muskmelon from Turkistan, and experiments with it prove that it will readily grow in parts of the country. The public will be glad to welcome this delicious fruit to the markets, as people have been obliged in past years to pay as much as \$1.50 for melons imported from Spain, which are about the size of our cantaloupes and without the high flavor and crispness of the Turkistan melon.

The melons were distributed to growers in the Southwest and in Utah in the River Valley. In the Southwest they were a failure, but in the Green River Valley they averaged from 12 to 15 pounds and are reported as superior to the imported stock. One peculiarity of this new fruit is that it must be pulled from the vines about the time of the first frost and put away in storage. The longer the melons are kept the better they are; they mellow with age. At the time of picking they taste like cucumbers and reach their full flavor about Jan. 1. These melons will readily bring \$1 each in the large markets.

Orchard and Garden.
The following from the Ruralist is worth preserving for reference, although we would not wish so many varieties of pears for our own garden, and many less if growing for market. We would add the Sheldon to the list in either case.

Our first planting of pears, consisting of 10 varieties, was made 10 years ago; these have been added to each year until now we have 63 varieties, 22 of which have borne

fruit. A brief description follows in order of ripening.
Doyenne d'Ete ripens the last of June, is small, very productive and always sells well. It is very profitable, but has the reputation of blighting badly.

Wilden, the best-favored early pear. The trees are young, and, although they have not borne many pears yet, there is plenty of time for them to take a place among the profitable varieties.

Manning's Elizabeth is a small pear of high quality, fine appearance, and is productive and profitable.

Clapp's Favorite is the earliest large pear ripening July 20 to Aug. 1. This is the latest, finest-flavored, most productive and profitable pear of the season, but is so subject to blight that few trees are set of this variety. The fruit must be gathered soon as ripe, and before it is soft and ripened in the house, as, if allowed to remain on the tree, it rots at the core. All early pears should be house ripened if the best flavor is to be attained.

Bartlett follows very closely, and is a general favorite, being a young and prolific bearer, and of good flavor. It blights easily, and should not be planted where orchards are blighting.

Howell is larger than Bartlett, not as productive, better quality, profitable.

Seckel is the standard of quality among pears. Small size, productive, and sell well, but not as profitable as others, owing to its ripening at a season when there is such abundance of other fruit, and especially larger pears, size and appearance being generally preferred to quality.

Louise Bonne, a medium-sized pear, very juicy and good flavor, productive.

Buere Bose. This is a very large, long pear, but very rich, productive. Generally shown at exhibitions, it is small, owing to leaf spot, but properly grown, it is large and golden.

Duchess is the largest of the collection succeeding best as a dwarf. Very productive, juicy, fine flavored, profitable.

Kieffer is the most vigorous, most productive and earliest bearer in the collection can be kept late in the fall, and when ripened properly is a good eating pear and the best of all for canning.

Large Late is valuable chiefly as stock for grafting, being the best grower of all. Fruit of poor quality.

Lawrence is a profitable winter pear, being productive, medium sized and good flavor.

Berre d'Arjon is a good flavored pear of medium size and moderately productive.

Bonne Clairemont is the latest keeper of all. Large, an early bearer, beautiful.

President Dronard and Bourre Easter are bearing this year for the first time.

Of the above list Manning's Elizabeth, Louise Bonne, Seckel, Duchesse, Anjon and Lawrence were grown as dwarfs, the others standards, which after more we prefer, and are growing those fruited only as dwarfs now on pear stocks. Duchess only doing best as dwarf.

Our trees have never blighted, the annual growth having been moderate until this year, it being more vigorous than usual. The soil for the early pears is sandy, for the late varieties a little heavier. Clay is best.

Export Apple Trade.

The total apple shipments to European ports for the week ending Dec. 16, 1899, were 17,715 barrels, including 8,602 barrels to Liverpool, 1,612 barrels to London, 723 barrels to Glasgow and 1035 barrels to other ports.

The exports included 1202 barrels from Boston, 8421 barrels from New York, 6207 barrels from Portland and 945 barrels from St. John, N. B. For the same week last year the apple shipments were 22,791 barrels.

The total shipments thus far this year have been 302,341 barrels, against 279,745 barrels for the same time last year. The shipments in detail have been 136,709 barrels from Boston, 242,129 barrels from New York, 8907 barrels from Portland, 289,916 barrels from Montreal, 161,277 barrels from Halifax, 6431 barrels from Annapolis, N. S., and 11,673 barrels from St. John, N. B.

Chester R. Lawrence of Faneuil Market, Boston, the principal exporter of apples from here, has mail advices from Liverpool, England, under date Dec. 9, as follows:

The market continues very favorable for fruit of good quality in sound condition, values all round being fairly well sustained. From New York we have had very few this week, mostly Newtown Pippins and York Imperials, both of which varieties were not particularly choiced. Maine Baldwin have shown up fairly well, but the same cannot be said about Boston, some of which were in very bad condition.

The greatest disappointment of the week, however, has been in regard to Canadian arrivals, which were again of a most unsatisfactory character, notwithstanding the fact that most of them were "re-packs."

So far as external appearance is concerned there was a very great improvement, most of the barrels being tight, but when samples were turned out, as they are in the room.

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DOG'S HEAD, FROM A FAMOUS PAINTING BY LANDSEER.

most of the Greenings were found to be brooded or "soured," which had the effect of making buyers very cautious, and for some lots that were very bad only low prices were obtainable.

For some seasons past now the Greenings have been more or less affected in this way, but hardly, we think, have they ever been so bad as those received this week; at all events not at this time of the year, which is all the more to be regretted, seeing that this variety is very much wanted just now.

Kings, of which we had some very good lots, and remarkably well, and for other sorts that proved to be reliable results leave nothing to be desired.

Quotations for tight barrels: Canadian Baldwins \$2.40 to \$2.50, Greenings, \$1.58 to \$2.04, Sprys \$2.64 to \$2.56, Kings \$2.32 to \$2.34, Boston Baldwins \$2.40 to \$2.47, Maine Baldwins \$2.64 to \$2.16, New York Newtown Pippins \$2.54 to \$2.70, York Imperials and Wine Spys \$2.58 to \$2.52 per barrel, California boxes \$2.30.

Arrivals from Aug. 17 to Dec. 2, 1899, 348,089 barrels; arrivals during the week ending Dec. 9, 20,883 barrels; total to Dec. 9, 368,972 barrels. To same date last year 374,724 barrels.

Vegetables in Boston Market.
People need not fear a scarcity of vegetables for Christmas if they have the wherewithal to buy, even if the space usually allotted to the wagons of the farmers is filled with about 30,000 Christmas trees and an unusual amount of other evergreens.

The weather has been more favorable than usual for gathering it, but the farmers took advantage of the same good weather to bring their produce to market, and with a full stock and fair trade prices remain steady. Beets and carrots are 40 cents, and flat turnips 35 cents. Yellow turnips are \$1 a barrel, and sweet German \$1.25. Native onions, \$1 to \$1.25 a barrel, and 40 to 50 cents a dozen bunches, radishes 20 to 30 cents a dozen, both cases and bunches \$9 to \$11 per hundred, peppers \$3 a case, celery at \$2.50 to \$4 for early and late, and Boston market \$4 to \$5.50, hot house tomatoes 20 cents a pound, egg plants \$2.50 a case, saffron 75 cents to \$1 a dozen and artichokes \$1.25 a bushel.

Cabbage, white and Savoy, \$1 to \$1.25 a barrel, and red \$1.50. Sprouts 12 to 13 cents a quart box. Fair sized cauliflower 10 to 15 cents each. Lettuce \$1 to \$1.50 a box of three dozen, varying in quality. Spinach varying from day to day 35 to 45 cents a box. Endive 40 to 50 cents and parsley 75 cents a box. String beans \$3 to \$5 a crate. Mushrooms in fair supply at 50 to 60 cents a pound.

Potatoes are in good supply, but prices are firm at 63 to 65 cents for Arrowroot Green Mountains, and 60 to 63 cents for Hebrons. York State white are 55 to 58 cents for long, and 58 to 60 cents for round. Sweet potatoes in light supply and but a moderate demand. V. Virginia extras in large barrels are steady at \$2.25 to \$2.50, fair to good \$1.75 to \$2. Jersey extras in double head barrels from \$2.50 to \$3. Marrow squash are 75 cents a barrel, with Turban and Bay State from 75 cents to \$1. Western Hubbard from \$2 to \$2.50 a ton. Good ones bring the higher price very easily.

The Vanishing Lobster.
The man who is in the habit of dropping into a restaurant in these days and ordering broiled lobster has probably observed with surprise that the ratio between the size and the price is steadily increasing in favor of the price. For 30 cents he can now obtain about as much lobster meat as he would find in three Little Neck clams. In addition to this he must have noticed that lobsters with one claw missing are more frequently served now, and if he carried a pocket rule he would probably also discover that at least 30 per cent. of the lobsters served to him were below the legal requirements of nine inches in length. If he thinks the claws have been taken off by the cook to make into salad he is mistaken. The lobster lost them in a fight. If he calls attention to the short length he will be informed that the rule now is to measure from the tail to the tip of the claws, not to the nose.

The fact of the matter is that lobsters are becoming extremely scarce, and that where wholesale dealers formerly shipped a thousand pounds a day, they now think a hundred pounds a day average. A good lobster for broiling should weigh a little more than half a pound, and one that weighed two pounds would be considered large, the average being about a pound. So great has been the demand for lobsters during the past few years that the fishermen no longer put the small ones back into the water again, but take everything they find in the pots, so that the breed is gradually thinning out, and lobsters of large size, three or four pounds, are very rarely taken. Those

that are too small for the market the fishermen eat themselves, and as they broil the little fellows, in which there is not much but the tails, it takes about half a dozen to make a meal for one man.

The lobster industry is pursued all along the New England coast by a class of men who like to be their own boss, and who have other occupations to fall in their time. The outfit for lobstering is more expensive than for any other kind of fishing, but the profits are in proportion. The season usually begins in Spring and lasts until the first of November. During the winter months it is not worth while to set out lobster pots unless the conditions are very favorable for lifting them regularly.

When a man concludes to add lobstering to his other means of obtaining a livelihood, he must first provide himself with a good boat. Small oar boats, sloops and sharpies are frequently used, but the 16-foot flat-bottom row-boat is the best for all-round affairs and are put together during the winter months. These pots are about four feet long and two wide, and are built of oak. The bottom is flat and the sides and top form an arch, something like a section of a railway tunnel or a letter U upside down.

One end of the pots is closed with laths, while the other is closed by a well-rafted net of twine, shaped like a funnel, the large end outside the pot and the inner end forming a ring about four inches in diameter. This net reaches about a third of the way through the pot, and beyond it is another funnel net just like it, with the small end toward the rear end of the pot. The object of this second net will be explained presently. Between these nets is an upright plank, on which the bait is stuck, and the pot is weighted with bricks or stones, securely tied to the bottom. A removable door made of laths runs the whole length of one side of the pot and is held fast by iron buttons. A nine-thread Manila rope is made fast to one end of the pot, and at the other end of the rope one or two corks and a three-foot wooden buoy are attached. These buoys are painted white, so as to be easily seen, and have on them some small mark, so that one man can tell his buoys from another's.

A lobster pot provided with about a hundred feet of rope costs three or four dollars, and it will seldom last more than one season. The nets soon wear out, or get bitten and torn by the lobsters and fish; the rope rot in the water, and worms get into the laths and eat the heart out of them until you can crumble them up between the fingers as if they were slices of this loaf. There is an immense fortune waiting the man that will discover something to prevent these worms from attacking woodwork under water. All along the Sound they are especially destructive. The nets are another unsolved problem. Copper wire has been tried, but it has not been found that lobsters will not enter a pot with anything but a twine net, and they won't go near a metal pot. Even celluloid has been tried and it failed.

About 15 or 20 pots are as many as one man can attend to in a tide-way. They must be planted on a rocky or hard bottom, as it is useless to set them on the mud. The pots are taken up in a boat, and thrown overboard, with about 20 feet more line than the depth of water at high tide. When the tide runs strongly the buoys are carried under, and cannot be seen, so that the only time the pots can be lifted is at the slack of the tide, and as they cannot be lifted at all in stormy weather they must often be left for several days without being hauled.

Any kind of fish will do for bait, but the best are the favorites. These buoys are caught in a gill net, which is set out at night, and some are called for use after the lobster season is over. Dogfish, hake and devilfish are also used; skates and dead cods will do at a pinch; any kind of sea food, in fact, which is not good enough for man. Two or three buoys are forced down on the skimmer through the gills, and a rubber ring is pushed down over them to prevent them from being washed or lifted loose.

When the lobster gets his eye on the bait in the pot, he works his way in through the funnel net, usually last first, so as to be ready with his claws to fight anything that may attempt to come in after him. After he has eaten as much as is good for him, he starts to get out again, and in looking round for an opening he naturally takes the large end of the second or inner funnel net. Once through that, he is safe for a time and cannot get at the bait to eat it all up. If the pot is lifted every day, most of the lobsters will be found at the bait or in the end of the pot, but if the pot is left for a longer time the lobster will get hungry, and seeing the bait so near him he will take steps to get back to it. Sometimes he will go

back through the funnel, but usually he will bite through the inner net. Once through this, he is back at the bait again, and after satisfying his hunger, instead of going through the outer net and on to freedom, he goes right back through the second net again, as it is the larger opening, and so on, round and round, until the pot has been lifted for the second net, he would devote all his attention to the first and would soon be at liberty.

When the pots are to be lifted the buoy is first taken into the boat. The line is then pulled in until the pot comes to the surface. The bottom of one end of the pot is brought to the edge of the boat so as to give a leverage, as the pots are heavy and the whole thing is then lifted aboard, placed crosswise of the boat and the door of the pot opened.

It must not be imagined that lobsters are the only things that get into these pots. For every lobster that is taken there will probably be about a dozen spider crabs, which are absolutely useless, and are always killed before returned to the water. Quite a number of minnows, which make excellent bait for black fishing, especially if they contain hermit crabs; hake, blue crabs, blackfish, rock bass and eels are also taken in these pots. John Barge, lighthouse keeper at Falkner's Island, recently took out of a lobster pot an eel weighing ten pounds, which was exhibited at Guilford as a great curiosity.

Men will often have to row several miles to lift a string of lobster pots, and they must work fast in order to get at them while the tide is slack. Hauling pots is very hard work. Long rubber boots are worn to keep the drippings from the rope of the legs, and a man will wear out two or three pairs of these boots in a year, the long hilling being in the mud and the barnacles on the rocks cutting them to pieces, so this adds another large item to the expense of a lobstering outfit. When nothing is found in a way after several liftings it is moved to a better position. If the pot is damaged in any way it is taken ashore for repairs. Pots are lost usually through the rigging being carried away and the buoy floating out to sea.

The lobsters are left on the bottom of the boat until the return to the shore, when all the claws are plucked, so that they may be safely handled in future. The lobsters are then placed in a large floating fish box moored to a buoy so that it will float at low tide. When enough are gathered to make a consignment a trip to market is made, the lobsters are loaded in crates and taken ashore to the nearest dealers. Last June 10 cents a pound was considered a good price for Sound lobsters, but they are now worth 14 or 15, and hard to get at that. The number that will be taken in one pot is entirely a matter of luck. Fifteen or 30 is a common thing for a good day, while six or seven is now a good catch. A man with 30 pots could get 500 pounds a week some years ago where he is doing well now with 100.

The small lobsters are the best for broiling, and should always be split open alive, putting the knife into the head first. After they have been cleaned the tails should be placed on the broiler by themselves, the claws being cooked separately. Large lobsters are better boiled and served in milk. They should be put alive into boiling water, head first, and cooked about 15 or 20 minutes. Lobsters that have been kept out of the salt water, even for a few days, soon lose their fine flavor, and the shorter the time between the sea and the pot the better eating they are.

The reason so many lobsters are found with a claw missing is because they are desperate fighters. When a lobster gets a grip on an adversary something has got to give away, and when one lobster gets another by the claw the only way out of the predicament is for the prisoner to drop his claw, which he seems to be able to do at will. If you get hold of a lobster by the claw while he is in the water you may be surprised to find that if he cannot get hold of you with the other claw he will shed the one you are holding just as easily as you would drop a handkerchief. The reason a lobster is ever caught with both claws missing is that when he is totally unarmed he would not venture into a lobster pot on any consideration. He simply hides himself. The claws soon grow again and in the course of a long and painful life a lobster will probably have grown and lost several dozen claws.—New York Sun.

—The shipments of leather from Boston for the last week amounted in value to \$158,699; previous week, \$253,773; similar week last year, \$196,881. The total value of exports of leather from this port since Jan. 1 is \$735,321, against \$1,188,875 in 1898.

—The total shipment of boots and shoes from Boston this week have been 94,048 cases, against 91,587 cases last week and 98,808 cases for the corresponding week last year. The total shipments thus far in 1899 have been 4,553,284 cases, against 4,160,987 cases in 1898.

—The exports from the port of Boston for the ending Dec. 16, included 22,122 pounds of butter, 992,090 pounds cheese, 39,000 pounds of lard, 309,465 pounds of meat, 30,000 pounds of fish, and 30,000 pounds of other goods.

—The total value of the exports from the Atlantic coast last week to include 365,800 barrels of flour, 1,048,800 barrels of wheat, 4,288,000 barrels of corn, 5070 barrels of pork, 544,000 pounds of lard, 1,151 boxes of meat.

—The visible supply of grain in the United States and Canada at Dec. 16 included 57,098,000 bushels of wheat, 1,248,000 bushels of corn, 5,888,000 bushels of oats, 1,435,000 bushels of rye and 3,891,000 bushels of barley. Compared with the previous week this shows an increase of 801,000 bushels of wheat, 341,000 bushels of corn, 78,000 bushels of oats, 1,184,000 bushels of rye and 4,169,000 bushels of barley.

—Four principal countries last week exported 4,456,649 bushels of wheat and 4,979,185 bushels of corn. The United States furnished 3,858,649 bushels of wheat and 4,017,185 bushels of corn.

—The shipments of live stock and dressed beef last week included 691 cattle from Boston; 1908 cattle, 1105 sheep, 18,059 quarters of beef from New York; 856 cattle, 3000 sheep, 3500 quarters of beef from Baltimore; 1900 quarters of beef from Philadelphia; 284 cattle, 168 sheep from Portland; 850 cattle from Newport News, a total from all ports of 4,089 cattle, 3888 sheep, 21,753 quarters of beef, 1300 cattle, 3050 sheep, 14,880 quarters of beef sent to Liverpool; 1769 cattle, 6000 quarters of beef to London; 458 cattle, 1000 sheep to Glasgow; 644 cattle, 168 sheep to Bristol; 58 cattle to Hull; 1898 quarters of beef to Southampton; 57 and 77 cattle, 55 sheep to Bermuda and West India.

—Eggs remain quiet and good stock is firm in price. Some fancy nearby or Cape eggs bring 30 to 35 cents, and choice fresh Eastern and Northern are 25 to 27 cents, but ordinary to good are mostly sold to 23 cents, with some at 22 cents. Very few Western bring over 24 cents, and most of them go from 11 to 12 cents. Cold storage eggs are from 11 to 12 cents, with only choice April packed lots above 14 cents. About 5000 cases were taken from cold storage last week, leaving the stock now 67,178 cases, against 31,030 cases at this time last year.

—East-bound shipments dead freight by all rail routes from Chicago last week amounted to 96,863 tons, against 81,795 tons the previous week and 108,814 tons for the corresponding week last year.

—Dandelions in full bloom in Needville, Mass., Dec. 20, a sight seldom seen at the season of year.

—Reports of general merchandise from the port of New York for the week were valued at \$12,460,854, against \$12,559,115 in the preceding week and \$10,151,921 in the corresponding period of last year.

—The 7000 Dockhoppers who recently left Russia and settled in the Northwest Territories of Canada are said to be in straitened circumstances, and will need assistance to carry them through the winter.

—Pork packing in the West has been increased considerably, the total killing for the week, according to the Cincinnati Price Current, having been 608,000; preceding week 485,000; same week a year ago, 775,000, the largest weekly exhibit on record, since Nov. 1 the total killing has amounted to 3,006,000; same time a year ago, 2,745,000; increase, 630,000.

—Beef continues quiet in this market with the West still very firm. Shippers find that they are losing heavily on beef shipped to Boston, and this will be likely to further decrease shipments here, especially during the Christmas trade. For the week the total arrivals were 135 cars for Boston, and 76 cars for export, a total of 211 cars; preceding week, 180 cars; same week a year ago, 190 cars; total of 190 cars; same week a year ago, 135 cars for Boston and 126 cars for export, a total of 261 cars.

—The lung differs from all other structures in having two separate circulations, the nutritive, supplied by the left side of the heart through the bronchial artery, and the functional, supplied by the right side of the heart through the pulmonary artery. This double circulation underlies all the phenomena of pneumonia, and must be recognized in any definition of the disease, as without it the disease itself cannot exist.

—State Grange Visits Hood Farm. On Wednesday morning carriages conveyed members of the State Grange to Hood Farm for an inspection of the famous Jersey and Berkshire. The company included Overseer E. A. Emerson; Chaplain O. S. Walker, professor of political economy in the Agricultural College at Amherst; H. A. Burton of the executive committee; J. E. Gilford of Sutton, master of the Worcester Central Pima Grange, and nearly 300 officers and delegates from subordinate granges.

The visitors were received by superintendent John T. Carpenter, who explained the various appointments of the farm buildings and exhibited some of the famous animals. The Hood Farm Jersey were pronounced the highest types of dairy animals that can be seen in this country. Figs, the great prize winner of 1899, attracted special attention as a most extraordinary cow both from a dairy and a show standpoint. Hood Farm Figs was called the finest show bull in this section, and Merry Maiden's son excited great enthusiasm as a young sire that must make his impression upon the general standard of dairy stock all over the country. The Berkshire farm was visited by a portion of the party to whom the most famous individuals were shown.

All expressed themselves as greatly pleased with what they saw, and with the hospitable and courteous manner in which they were treated.—Lowell Mail, Dec. 18, 1899.

—The small lobsters are the best for broiling, and should always be split open alive, putting the knife into the head first. After they have been cleaned the tails should be placed on the broiler by themselves, the claws being cooked separately. Large lobsters are better boiled and served in milk. They should be put alive into boiling water, head first, and cooked about 15 or 20 minutes. Lobsters that have been kept out of the salt water, even for a few days, soon lose their fine flavor, and the shorter the time between the sea and the pot the better eating they are.

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MASSACHUSETTS PLOUGHMAN

BOSTON, MASS., DECEMBER 30, 1899.

Though the eight-hour day comes a quarter of a million dollars high, Boston is resolved to afford it.

The American Express Company has a fine sense of the times of things. To each one of their 24,000 employees, who have been laboring hard delivering Christmas boxes, they have a five-dollar gold piece as night as a Christmas gift.

The Cambridge school board has shown its good sense in rescinding its action, whereby graduates of Harvard and Radcliffe were excluded from the possibility of doing extra service in the city's public schools. We long ago pointed out the absurdity of such exclusions, and we rejoice that Cambridge has now come to the conclusion that a thing is never fixed till it is fixed right.

There is much fall honey stored in some seasons which is not as light in color as the white clover honey, but to our taste it is quite as good flavored. It is in part from the late-blooming seed and in part from the white clover, but more from the golden rod, fall aster, and other wild flowers and weeds. Such honey should be sold at the same price as the clover honey, and where the bees have stored much of it, the beekeeper may find it profitable to take it away and give in its place combs of buckwheat honey or some other earlier made honey, not as fine in flavor but perhaps even better for winter stores because more thoroughly ripened.

All the wood needed for next year's fire wood should be cut down early in the winter, though it may not be seen into lengths or split up. In fact, it had better not be, for there is sure to be much of either rain or snow within the coming few weeks, to make up for what deficiency has accumulated during the year that is ending. Wood splits more easily while it is green. This makes many people hasten to split it up while it splits easily. But while the weather is stormy, with either rain or snow, the wood will not dry out enough to make it very hard splitting. If cut after the sap starts the tree should be sawed and split up as soon as possible, so that the excess sap in the body of the tree may pass off in the sap sprouts as soon as they start in the spring.

Washington as a boy was thoughtful and noted for the slowness of his speech and the maturity of his convictions. He while a child spoke and acted more like a grown man than a boy. This characteristic he always retained. It added greatly to the force and dignity of his character. At a very early age he wrote out a series of admirable rules for his own conduct through life. These have been often reprinted. These rules were the result of his reading of serious books, yet as a boy Washington was not a prig. He was the recognized leader in athletic sports, and it is said once through a river, across the Potomac River at Mt. Vernon. Some one during the Civil War told this story to Senator William M. Evarts of New York, and asked him where any modern young man could be found who could do it. Mr. Evarts smiled and he replied, "You must remember, dear sir, that a silver dollar could be made to go much farther than now." That was when gold was 200 more per cent, premium, and neither gold nor silver as currency could be had.

The death of Mayor Gen. H. W. Lawton while at his post in front at a recent battle is most unfortunate at this time, for it comes so near the time when the Tagal insurrection must be suppressed that it seems as though he ought to have lived to rejoice in the fruits of victory and the peace with prosperity that has come to the Philippines when under United States control. But General Lawton made himself a conspicuous mark, as do most American officers when they go into battle in the present war. It is thus that they distinguish themselves by winning victories. But who shall say that this life was lost in vain, and that it would have been better if he could have prolonged it, and enjoyed earth life a while longer? The Mohammedans believe that whoever falls in battle fighting the Christian's cause is straight to Paradise. The idea has this germ of truth in it: Whoever dies while fighting for a cause that serves humanity allies himself with one who while living spent his life in serving and helping men, and when his life was demanded as his reward for a lifetime of service he freely gave it. Well does the poet Virgil exclaim:

The noblest place for men to die is where he dies for men.

For a number of years Europe has looked to the granaries of the United States for its supply of the staple articles of food. Now it is coming to look to America, and this also includes Canada for its fruit also. A recent despatch from Hamburg says that the Prussian government has sent out circulars relative to the advisability of placing a high duty on fruit to exclude it for the benefit of German land owners. The reply of the Hamburg Chamber of Commerce is that American fruit has become a necessity. It is sold much cheaper than that home grown, and is more free from parasites. The fruit from America is distributed through the mails in warm and cool, while that grown in Europe receives just about the same care that American fruit received 40 or 50 years ago, which was no care at all. Now that we have won in German markets it is probable that American fruit will soon have a world-wide reputation as regards quality. Within a few years this country will be supplying the millions of India, Africa and Japan with choice fruits better than can be grown at home. Thus will be vindicated the acquisition of the Philippines, which gives us an entrance to the trade with China, India and the far East.

The winter solstice, or the day when the sun apparently stands still, passed on the 21st of December, before any copy of this paper was distributed through the mails. The day, Dec. 21, is the shortest of the year. But the sun had begun to set a little later, gaining one minute, or in the latitude of Boston, setting at 4:20 a.m. on the first of December and the 14th, and all the days between that and the 14th a gain of one minute, those 13 afternoons being, therefore, the shortest of the year. Another gain of a minute, or to 4:30, was made on Dec. 19, followed by every next day by 4:31, and on Sunday, Dec. 24, the afternoon in this latitude was four hours and 33 minutes long. But the hours of daylight in the morning lost in this time more than the afternoon gained, being 5:10 on the 1st of December and 5:21 on the 21st. After this the afternoons will

appreciate quite perceptibly in length, provided the weather is not too stormy. It is a wise provision of Providence that makes the shortest month of the year one wherein the afternoons begin perceptibly to lengthen. December is the month when hens lay the fewest eggs, and those they do lay in cold, stormy weather are pretty sure to be not properly fertilized.

Agriculture in the Philippines.

The Philippine islands are by no means an unexploited waste populated by savages. Mr. Frank Hitchcock of the Department of Agriculture has sent out a leaflet giving some information about the agricultural products. There are about 8,000,000 acres in cultivation. They grow 100 varieties of rice to the amount of 26,000,000 bushels, and import 2,300,000 bushels more. They grow several varieties of corn or maize to the amount of over 4,000,000 bushels. They grow yams about 18,000,000 pounds of sweet potatoes, and some white potatoes of inferior quality. Cassava is another tuber grown there. They export in a year nearly 100,000 tons of Manila hemp. They grow cotton of a white, strong fibre, another variety that is cinnamon colored, and a tree cotton that is used in upholstery. They grow coffee of a superior quality and some of lower grades. Men have begun to cultivate citrus fruits, and many apples, besides various medicinal plants, including cinchona, used as a substitute for quinine. They have four varieties of sugar cane from which they make an unrefined sugar. The fruits of the islands include bananas, oranges, lemons, pineapples, cinnamon apples, lamaris, manila, plum, papaw, jujubes, litchi and mangoes of extra fine quality. They also grow tobacco in large quantities.

The Causes of Failure.

Failure is not to be measured by financial loss, any more than success by pecuniary gain. Charles Goodyear, who made India rubber useful, struggled through years of poverty and hardship and did not live to enjoy the fruition of his great discovery. Yet who will say that his life was a failure? Men have perished on the sea-floors, and William Wallace, rotting in a dungeon like Tossolini, died in a debtor's prison like Robert Morris, whose lives, measured by their achievements, were grandly successful. It is difficult, therefore, to define the exact meaning of failure, as applied to the career of man. Generally the man who fails to acquire either reputation or fortune, who accomplishes nothing of value to mankind either in the present or the future, and whose home is made unhappy or broken up through folly or poverty, or both these causes, may be pronounced a failure in all that the term implies. As a business expression, failure has a narrower meaning, and it is in this sense that it is commonly used. Many a man, however, has been made a "success" by failure in business, as witness Washington Irving, who left a mercantile career in which he was unsuccessful to become one of our greatest writers, the father of American literature. As a young man, however, he had made a mark even as publisher and newspaper owner, had comparatively little education. Some of them are barely able to sign the checks with which they pay highly educated men to do their work. Higher education, on the other hand, often leads to failure, in refusing to the point of impracticability nature already sufficiently exhausted, and in entering on unwillingness to endure the petty and arduous drudgery through which success is achieved. This is a fact to be deplored, but it is too evident to be ignored. Many a man who probably has been successful had he not been handicapped with geometry and the dead languages has shown himself utterly unable to keep up in the race with the ignorant fellow who gallops along, serenely indifferent to Cicero and Euclid, and trusting the hand of chance to the highly wrought vision of his competitor some insurmountable. The saying that "fools step in where angels fear to tread" has more than one application.

Over-sensitiveness is undoubtedly one of the leading causes of the failure of men of marked and unusual ability to fulfill their apparent destinies. We see this in whole races as well as in individuals. No race comes to the shore better fitted morally, mentally and physically to set an important part than the Scandinavians. Yet their highly sensitive nature keeps them in the background, while people of coarser grain push to the front. The hog may force its way unsmoothed through a hedge of briars that would disable a thinner-skinned, sensitive animal. But a Rodeo may lie on the other side of the hedge.

It is the duty of the over-sensitive man to strive by the exercise of will power to remove this obstacle to practical achievement. Once he overcomes it—and only then—his abilities will have a fair chance to assert themselves.

Unreliability is one of the most frequent causes of failure. The man who can be depended upon is always in demand. A petty lie, a small piece of dishonesty, a serving and malting, all tend to create an impression of unreliability. The employer might be unable to explain just why he regards an employee as unreliable, but the opinion will be found, as a rule, to be grounded in a number of acts, each in itself of slight importance, but when taken together forming a link of deceit and dishonesty. Men who are not watchful when they are employed are pretty certain to be kept on the watch for employment.

"Never venture, never win," is as applicable to the affairs of life today as when first uttered. In no country in the world is timidity such a bar to success as in America, because here the prize within reach of the bold and courageous are so much greater than anywhere else. The timid are pushed and trampled upon in the double-edged march toward fame and wealth. Nothing worth obtaining is gained without risk. The late Robert Bonner paid his available funds into advertising one week in order to bring in profits the next. He ran the risk of losing everything, but he became a millionaire instead of a bankrupt. Had he been timid he might not have become a bankrupt, but he never would have been a millionaire. The bold and venturesome sometimes fail, but even in misfortune they excite sympathy and admiration, while for the man who goes to the well on account of timidity there is nothing but contempt.

Look of perseverance is a first cousin to timidity, and causes many failures. It shows a weak character, an absence of the robust, energetic, virile qualities which are requisite in lasting success. My motto is "Hold your grip," said Irving M. Scott

builder of the Oregon, when telling of the many discouragements he had encountered and overcome. The man who is cowed by every reverse, and is ready to abandon an enterprise without a thorough trial, will never be numbered among the captains of industry or the magnates of finance.

Circumstances over which a man has absolutely no control may shut to him forever the path of hope, or prove an opening to fortune and distinction. How large a proportion of failures are attributable to such circumstances it would be difficult to estimate, but the number must be very great.—Orison Swett Marden, in New York Journal.

The First Christmas Gift.

God so loved the world that nineteen hundred years ago he gave us his only begotten Son to teach us how to live. This was the first Christmas Gift. It was to announce to the angels proclaimed to the shepherds at watch in the fields, "Behold I bring you tidings of great joy." However strongly we may emphasize the beauty of Christmas as a day for remembering the poor, a day for family reunions and a day sweetened and blessed by presents between loved ones, it will sooner or later become comparatively flat and stale to us if we fail to see that its essential beauty lies in the commemoration of God's priceless gift to man—the gift of himself through his Son.

Year by year God sets himself before us as a little child, in great humility. Year by year through his holy nativity he calls us to behold him, and cries by his very speechless infancy, "Take my yoke upon you and learn of me." Now no longer is man's way dark. Christ, the Light of the World, goes before to show us where we shall tread. For the negative "Thou shalt not" of the Ten Commandments we have now the inspiring "Thou shalt" of the Man who was born at Bethlehem.

Robert Louis Stevenson has pointed out that it was in the substitution of the possible for the impossible that the "good news" of Christ's coming lay. "It is much more important," he wrote, "to do right than not to do wrong; further, the one is possible, and the other has always been and will ever be impossible. Christ delivered us from the law" by showing us that the faithful desire to do right is accepted by God. That seems to me to be the gospel.

Yes, the "tidings of great joy," the "good news," which was marked by Christ's coming, means, if it means anything, that God accepts the spirit as well as the result of our designs. The commands to "love all men," "love our neighbors as ourselves," and so on take on a new light in the glow of this assurance. There is nothing here to discourage. It is the same truth which Browning expressed:

"But only try, the trying will suffice; The aim if reached or not makes great the life."

Perhaps we cannot, at any rate at first, love those who despitefully use us, but we certainly can do things to help them. We can be unselfish. We can be kind. We can advance. And if we do this earnestly day after day, trying all the while to love as Christ would have us love, the fruition will inevitably come in honest kindness, in consecrated zeal for those whom we have been able to serve.

For not even love is a negative thing. Phillips Brooks has told us that there is no love without its duty. The mere emotion which sentimentalists label love is poor, weak twaddle. Love and the desire to serve always go hand in hand. If one has the former one must have the latter, and it is likewise true that one will always learn to love those whom one serves faithfully and with devotion.

Sometimes it seems to us strange that Christ should have loved as he did the wavering fishermen who were his disciples. Stopped of romance, Peter, for instance, must have been a rather trying character. Certainly, as one studies the personality with which Christ was endowed him, one does not feel especially drawn to the man. But may not a human explanation of Christ's yearning tenderness for St. Peter lie in the fact that our Lord saw how much he could help him? Consciousness of our power to help some one in need is a very potent factor in love.

Washington the Non-Partisan.

Nineteen hundred years after the death of George Washington is a good time to take something about him. This applies to writing biographies generally. Most men have in a hundred years been long forgotten. The silence of the grave closes around the effigy as it is lowered into the earth, or over the ashes as the body is cremated. Personal friends perpetuate the memories of those they love. But in a few years these also pass to the grave and are themselves forgotten.

There are exceptions to this in both the distinguished good and the extremely wicked. It was this that made Shakespeare say:

The evil that men do lives after them; The good is oft interred with their bones.

But this is only a partial and somewhat heathenish view, and needs correction. In the Old Testament of our Bible we are told the memory of the wicked shall rot, but that the fame of those who love God shall grow brighter and brighter until the perfect day.

There has been a great change in the view of General Washington within the past 100 years. He was at first placed on a pedestal, and a halo fitted over his brow that rather obscured the man's true character. This halo did not overestimate him. It was impossible to do that to the Father of his Country. It fits far better than halos usually do. But if we replace it now with a real estimate, Washington's fame will continue to grow brighter as the centuries pass by. It is somewhat curious that the Roman Catholic Church has fixed on the limit of 100 years after the death of any person before he or she can be admitted to the calendar of saints. This keeps the calendar from being overcrowded with men and women whom most on earth have forgotten, and it insures for those who are put on the calendar a fairer and more charitable judgment than could be given before.

We judge Washington now by his far-seeing address to his countrymen; by his parting address to those who had followed him through the perils of our Revolutionary struggle. Judged by the first of these he seems filled with the spirit of conservative wisdom. Yet in his earlier career he was an ardent patriot, and as far removed from non-partisanship as can be thought. The man, George Washington, kept on growing

all his life. While he was President he was a strong Federalist, but fully tolerant of those who had opposed the adoption of the Federal Constitution except as the first amendments modified it. Both Alexander Hamilton and Thomas Jefferson were in his Cabinet. He took his counsel from both of the parties of his time, and formed his own conclusions.

Dwight L. Moody.

The zeal and religious fervor of the great evangelist, who died Friday, Dec. 23, mark him as one of God's prophets to the present generation. His last words, "God is calling me," showed how fully he recognized the fact. He knew it ever after his conversion and call to evangelistic work. As the late Rev. Dr. A. J. Gordon used to tell it, the call came in this wise. Some poor and unlearned women were deeply impressed with the necessity for more strong, earnest men to carry God's message of love to the world. But what could they do themselves to help this work? They resolved to meet daily and pray to God to send His Spirit into some young, vigorous man who should be God's messenger to send the Gospel to the whole world. Finally they began to pray specifically for Dwight L. Moody, then a resident of their place. They said nothing to him about this, but met and prayed daily for the Spirit of God to send Dwight L. Moody that he would so fully recognize the message that God should give him.

In due time the answer to this prayer came. It may have been forty days, as happened at Jerusalem after the ascension of Christ, before the Day of Pentecost. Then the disciples, heretofore wholly disheartened, were endowed with God's spirit appearing among them as tongues of fire. But when Mr. Moody did at last speak he delivered a message that was the answer to their prayer. That message is ended now. The question the whole religious world is asking now is who will be Mr. Moody's successor, and will the message he brings be the same as Mr. Moody's?

This last is hardly probable. In the Bible we are taught that each life has its own work, and it must be completed before the man can die. Krishna was fitted to carry on the work of the Great Prophet Mahab, but he had a very different kind of work to do.

British Markets for Canadian Farmers.

While the preferential tariff, so called in Canada, has failed to promote importation from Great Britain, as shown by the trade returns for the past fiscal year, they bear ample testimony to the value of the British market for the Canadian farmer. A statement has been prepared by the customs department of the value of the principal articles under the head of "Animals and their produce and agricultural products," exported to Great Britain and the United States respectively.

According to this statement, Canada exported during the year 1899 horses to the value of \$388,063, of which Great Britain took \$301,300, and the United States \$235,592.

Cattle exports totaled \$4,592,335, being \$2,129,430 worth to Great Britain and \$1,298,170 to the United States.

Sheep, \$1,540,857, of which the United States took \$1,176,887 and Great Britain \$333,736.

Horses were exported to the value of \$370,873 in all, Great Britain taking \$359,997 worth and the United States \$35,976.

Of a total cheese export of \$16,776,755, Great Britain took \$16,718,418 worth, and the United States \$17,739 worth.

The export of eggs amounted to \$1,387,063, of which \$1,254,303 worth went to Great Britain and \$60,000 to the United States.

Of fur, \$1,555,237 worth in all were exported, Great Britain taking \$1,165,360, the United States \$389,356.

The total value of bacon exported was \$9,951,553, of which Great Britain took \$9,943,237 and the United States \$3,902.

Other meats, including \$284,531, were taken by Great Britain to the value of \$763,797 and by the United States \$24,836.

Fruits, total export \$5,596,415, of which \$3,773,491 went to the mother country, and \$347,970 worth to the United States.

Wine was exported to the value of \$5,295,888, of which Great Britain took \$4,511,113 worth, and the United States \$38,745.

Of an export of \$1,955,598 worth of peas, \$1,651,192 went to Great Britain and \$73,380 worth to the United States.

Great Britain took the bulk of our \$7,744,487 export of wheat, namely, \$7,458,338 worth, the United States \$15,643.

Of flour Canada exported to the old country \$2,967,214 worth and \$19,563 worth to the United States.

Unenumerated agricultural products to the value of \$1,852,734 were taken by England and \$2,056,291 by the United States out of a total of \$4,871,129 exported under that head.

Of the total of \$69,696,045 worth of farm and dairy produce exported as above detailed, \$60,057,543 worth was taken by Great Britain, \$5,717,819 by the United States, and \$3,920,684 by other countries.

Compared with the export of these articles in 1898, the export for 1899 shows the following increases and decreases:

Increases.—In wheat, \$248,770; in butter, \$1,634,187; in bacon, \$3,052,297; in fruits, \$1,887,055; in oats, \$228,810.

Decreases.—In horses, \$599,381; in cattle, \$800,457; in cheese, \$795,079; in eggs, \$158,285; in flour, \$2,122,722; and in wheat the large decrease of \$9,929,480.

Indian Summer Weather.

One of the climatic conditions peculiar to America, and especially to New England and the region of the lower lakes, is the rainy autumn which comes a few days before cold weather, giving warning to prepare for winter. It was one of the early experiences of the first settlers of New England, and they learned to call it "Indian summer," believing that Providence sent it to enable farmers to gather their corn so that they might not be without a supply of food when cold weather came. The poets speak of this season as St. Martin's summer, and the poet Whitman printed his book of poems with that title after he had reached the 70th milestone of life and believed his work for humanity well nigh done.

The Bubonic Fever.

A friend asks us where and when what is now called bubonic fever had its origin, and what are its symptoms. As we are not a physician the last question we turn over to the doctors, whose business it is to treat all kinds of diseases. But as for the history of the disease that is common property for all who have access to them, and know where to look. The fever is essentially a "dirty disease," as it is used to be called before the doctors had found out so much as they now know about bacteria. It has always been most destructive in tropical climates, and only prevails in winter where warm fires are kept and rooms are overheated.

The earliest of all records of bubonic fever is believed to have been recorded in the early part of the Bible, where Israel, feeling from Egyptian bondage was preparing to regain possession of the Land of Canaan which had long ago been promised to Abraham, Isaac and Jacob and their descendants. They were then called "emeroes," which means sore boils breaking out on various parts of the body. While the Philistines, owing to their filthiness, were sorely afflicted with emeroes, and feared to desert from their opposition, the Israelites, so long as they obeyed the health laws of the Mosaic code, were entirely free from them. As they initiated their Philistines into the ways of the Israelites were afflicted the same as they.

The father of the writer says that in his boyhood, in the early part of the present century, reports that a physician found a case or more of true bubonic fever even then. He described the boils as first breaking out under the armpits and in the groin. Any injury to the body below the groin, he said, caused hard swellings in the groin itself, while injuries above the groin will cause hard swellings under the armpits. Many persons have noticed such swellings in their own persons. This may develop into true bubonic fever if the disease is prevalent.

The account of the breaking out of bubonic fever among the Philistines is found recorded in I. Samuel, fifth chapter, sixth to ninth verses.

Moral Quality of Money.

Andrew Carnegie is known the world over as a man who has made his millions by iron and steel manufacturing near Pittsburgh. He is in the largest sense a public man, holding and seeking no office, but giving his opinion, as in this country every man may, on whatever subject attracts his attention and interests the public. The world stops to listen to such a man, for it presumes that a man who has gained great wealth can if he will tell it something of interest. To the world's surprise what Mr. Carnegie had to say to the world had to do with wealth, but told nothing new, but required it. There came instead a plain statement, that wealth in large amounts is not really worth trying to keep, and that any man is disgraced if he leaves life worth a million or more of dollars. This has never been the popular view, especially in this country, where to accumulate large amounts has always been held a virtue, because it enables its possessor to extend his or her influence farther, and accomplish more in the world.

We need to take Mr. Carnegie's telling sentence about being disgraced by the possession of great wealth with some abatement. That was possibly necessary to set people to thinking on this subject. But money in itself is neither moral nor immoral. It is a source of power to its possessor, which he may use for good or ill, in the hands of the man who uses it to accomplish great things for the world, and thereby increases it. Many of the great fortunes of the world have made more wealth for mankind than their owners have been able to secure. In fact, most of the world's great benefactors have been poor men, and the greatest of all was one born nearly sixteen hundred years ago, who said of himself, "The Son of Man hath not come to lay his hand on the sword, but to save the world." The world's benefactors have been primarily poor men, they have had to be aided by wealth, and there have always in every age been enough good men who had wealth to help carry on the good work which poor men have originated.

In our Revolutionary War most who at first favored independence were poor men. But George Washington was met by the wealthy men to the country at that time. He was estimated as worth a million, and it was the possession of this large wealth that turned the thoughts of the struggling colonists to Washington as their natural leader. Probably no man with less natural wealth than Washington could have maintained his ascendancy in American politics during the trying Revolutionary period, when roused and footsore patriot soldiers cheerfully followed the lead of Washington during the hard winter of 1779. The fact that General Washington defrayed his own personal expenses during the war, and refused any salary, showed as nothing else could have done how thoroughly his soul was enlisted in the cause of national independence.

But the work of most modern wealthy men is not to lead great political movements, but to help forward the progress of humanity in other and less conspicuous ways. Every human being, whether poor or rich, is obligated to help forward this work to the full extent of his power. All have a work to do in the world, and upon ability to that work depends life's success or failure. The increase of wealth, of ability and of any other element which can give life value, increases human responsibility. It is the growing conviction that so much can be done with plenty of money to do with that makes wealthy men afraid to increase their responsibilities in this way, and caused Mr. Carnegie to make the remark that we have quoted. At the time he avowed his purpose to dispose of most of his property before he died. But we suspect that he finds the world's wheel of industry in motion. He is much harder than he anticipated. He will probably continue in the iron-manufacturing business, with the result of increasing his present great fortune to still larger proportions. In this way he will almost certainly make his money continue to do good in the world.

The truth is that it requires an enormous amount of both capital and labor to keep the world's wheel of industry in motion. Whoever in any way helps along this good work, and whoever makes it easier for those who are helping, is the world's benefactor and cannot lose his reward. Helpfulness to humanity in the journey that all are taking to the future life seems to be growing more and more the substance of the Christian religion. All else is vanity and worse than vain, because it makes a mockery of the most important concern of man. In our journey through life some one has truly said it is the duty of all to give help wherever we can, for we go through this journey but once and cannot come back to remedy any mistakes.

use. It is a trust given them to be expended for the betterment of the world. So, too, the humblest worker in this cause need not feel abashed that he can do so little. As General Washington said in his farewell address when taking leave of the soldiers who had followed him until national independence was won, "Happy, thrice happy are they who have borne any part, however humble, in achieving this glorious result." To the reader the whole world is coming soon or late, and it behooves all who have ought to do in the world to see that they are neither shirks nor laggards, but faithful to the duties that lie before them. It will be idle then to ask whether the rich or the poor shall then receive most honor. Probably the sentence well done will be for each more welcome than any human earth has to give.

Prevention of Loss by Injurious Insects.

The attacks of injurious insects probably cost the loss of several millions of dollars in Massachusetts alone each year. This has not always been the case, but insects are becoming more abundant and consequently more destructive. Much of this destruction, however, could be either in part or wholly prevented if the proper methods of treatment were made use of, and that this is not more frequently done is very unfortunate. It is probable that the reason for the apparent negligence in this regard is due to ignorance of the fact that in each particular case, and what to do to prevent its ravages. It is this very uncertainty which results in nothing being done in most cases.

In order to provide this information for residents of the State, the Entomological Division of the Hatch Experiment Station at Amherst offers its services without charge to all who may desire them. In order to obtain this service, however, the entomologist, Hatch Experiment Station, at Amherst, Mass., describing the trouble, and also, if possible, send samples of the injury and the insect causing it, and attention will at once be given to the matter.

As the Hatch Experiment Station of Massachusetts is supported in part by State appropriation such a use of its facilities by the people of the State is not only justifiable, but most desirable, for it is established for just such a purpose, and no one who incurs loss by insect ravages can excuse himself for that loss except on the ground of ignorance that such assistance could be obtained.

Older Apples.

The prices obtained for older in the retail markets would justify one in the belief that there was a big profit in raising apples for grinding. If the grower of the apples received his proportion of the price at which older retail, it would pay better to sell his apples for making older instead of sending them to market for the table. But we should remember that a good deal of the best older is made of fine apples and not of the poor trash that many farmers put into the older mill. Indeed, it is a distinct industry in some localities to raise older apples, pure and simple. The so-called Smith older apples is raised quite extensively for older in places where it does well, and it is an apple that sells well for table use. It makes the best cider in the market, and the trees are heavy bearers. Instead of being a small, crabby apple, as some might be inclined to think of it, the fruit grows as large as the Ben Davis, and it has enough tartness to it to make it very desirable. Where this apple does its best it has a flavor superior to the Ben Davis. There is the fault with it that it will not thrive anywhere and everywhere, but anywhere it is particularly well suited, and the trees are heavy bearers. Instead of being a small, crabby apple, as some might be inclined to think of it, the fruit grows as large as the Ben Davis, and it has enough tartness to it to make it very desirable. Where this apple does its best it has a flavor superior to the Ben Davis. There is the fault with it that it will not thrive anywhere and everywhere, but anywhere it is particularly well suited, and the trees are heavy bearers. Instead of being a small, crabby apple, as some might be inclined to think of it, the fruit grows as large as the Ben Davis, and it has enough tartness to it to make it very desirable. Where this apple does its best it has a flavor superior to the Ben Davis. 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OUR HOMES.

The Workbox.

LADIES' KNITTED FETTER.
Materials—Ten ounces Fletcher's Spanish Yarn, four wooden or bone needles, No. 4.
These patterns are very suitable to be worn with the clinging skirt.
Commence at the bottom with 268 stitches in three needles, 44 on each needle. The wrong side of the knitting is the right side of the p. t. t. t.
1 to 7th rounds—Plain knitting.
8th round—Seven plain, part 5 (alternately all round).
9th round—Plain knitting.
10th round—7th and 9th rounds 50 times.
Now work back and forth to make an opening at back of petticoat.
1st row—Part 5, knit 3 together, alternately.
2d row—Plain knitting.
3d row—Part 5, knit 3 together, alternately.
4th row—Plain knitting.
5th row—Part 5, knit 3 together, alternately.
Work for 27 rows, 1 plain row and 1 part row. Take up 26 stitches down each side of the opening at back, and work all stitches for 4 rows, increasing 1 stitch each time when turning comes; cast off. Turn the work.
Crochet on right side around the bottom.
1st round—1 double in 1 stitch, 1 chain, pass by 1 stitch, repeat.
2d round—Work the treble in the middle of the previous round's chain, with 1 stitch each time when turning comes; cast off. A band may be sewed round top.
EVA M. NILES.

The Kingdom of Health.

High collars of cloth and fur, particularly where, as fashion has dictated, the collar widens out below to cover the upper portion of the chest and back, are about as disease-inviting inventions as ignorant makers of styles could foist on our countrywomen. As much as contagious disease, they should be avoided. Below the heated outline of the collar are exposed the vital organs, to take the full brunt of a low temperature. The shoulder area is bad enough, the fur collar is worse. True, it admirably shows off a tapering, hour-glass waist, but it shortens life or induces deadly disease. One young woman, when removed to a hospital for her compressed chest, was found to have a low temperature, and the thermometer below the collar, which is a constant menace to her life. There is no escape. In the long run, we reap as we have sown, says Good House-keeping.
Another mistake is to take off a warm wrap immediately on entering a house, especially after rapid walking, or to talk and breathe through the mouth when first emerging into very cold air. For the throat and lungs it is a great change when one passes from a room warmed to 70° or 75°, as many are, to an outside temperature of zero or a little above. The long passage through the nose to the lungs gives the air opportunity to grow warm, so that the shock is not so great as where the breath enters the mouth, to the danger of the delicate membranes of the throat. That we are usually all sufferers from catarrhal disorders should make us cautious. Despite the helpfulness of "mind cure," "faith cure," and other uplifting agencies, which are doing so much good in supplanting fear by hope, let us realize that our bodies are the organs of the soul, and as such require care. Religious ecstasy for a time may exalt the whole person that she may rise above ill conditions. The soul triumphs over the encompassing garment, and indicates what shall be, in that good time coming, when spirit brings to external consciousness continual proof of its inherent power over matter.
Still, we dwell upon a youthful planet, and human nature is ignorant of its wonderful heritage. Conditions are still unripe. To force them is rash. Every instrument through which mind manifests itself demands care. Else we suffer and pass away untimely to a sphere of greater wisdom.

Character Shown in Hats.

Show me how a man wears his hat, and I will tell you what manner of man he is. No man wears his hat as a man of the world. You can make a fair estimate of his character. Select the man whose hat seems to have been made for him, and which he has set squarely upon his head as if it were designed so to do, with never a tilt to the left or right, fore or aft. He is a methodical and a comfortable man, with rare endowment of common sense.
He is not given to flights of fancy. He obeys the injunction of the homely philosopher, who advised mankind to keep his feet to the ground. Men whose hats are always too large for them are of reckless habits. They are careless of externals, and given to introspection. They are philosophical and likely to fall into fits of preoccupation. They are apt to ignore mere details. Conspicuously of this class was Mr. Gladstone, whose hat brims always showed a disposition to reach his ears. Men whose hats are always too small are vain and self-satisfied. The man whose hat has been drawn over his eyes may not be a "crook," but he is undoubtedly a "scholar." He exerts in strategy, whether he uses his gifts in an army campaign or in a coup on Wall Street. He is not cheerful, in fact, is given to gloomy meditation. Much more does the man who habitually wears his hat pushed off his forehead enjoy the confidence of his fellow men. The man who wears his hat off his forehead is essentially frank. He is admired by those who do not agree with any of his views, for his straightforwardness; if nature has not gifted him with a singing voice, he whistles. The man who places his hat on one side is independent, self-assertive; he is in danger of becoming vicious. He is a "spoon" by nature if not by practice.—Hester's Gazette.

Lumbago.

Lumbago is a painful affection of the muscles of the lower part of the back. Physicians are not agreed as to its nature, some holding it to be a form of muscular rheumatism, others believing that it is a neuralgia—that is to say, an affection of the nerves supplying the muscles in this part. Very probably both opinions are right at different times, lumbago being sometimes rheumatic and sometimes neuralgic in its character.
The pain may come on suddenly or gradually, and it may vary from a dull ache to a sharp "jumping" pain. Usually it is felt across the entire back, but it is sometimes confined to one side. Movements increase the pain, but firm pressure upon the loins often affords more or less relief.
There is never any redness or heat of the skin, or other sign of inflammation, except what may have been produced by hot or peppery applications.
Some persons are greatly subject to lumbago, being seldom free from a little aching in the back, while others may never have a second attack—or even a first attack, for that matter.

Those who suffer frequently from the trouble are usually persons of so-called "orio-aid" diathesis, who often have little signs of pain in one or another of the joints, or inflamed eyes, or repeated colds, or headache, or any other of the troubles known as rheumatic or gouty.
The immediate exciting cause of lumbago is usually a cold, produced by lifting a heavy weight, stooping for a long time, horseback riding, and so forth; or the pain may be brought on by a draught of cold air playing on the back, as sometimes happens when the bedclothes slip off.
Lumbago is often more distressing on account of the apprehension it excites of disease of the kidneys or other internal organs, and on account of the severity of its pain. But the physician can readily make the distinction by the employment of modern methods of examination.
Among the remedies are heat, electricity, liniments of various kinds and plaster. The most satisfactory home treatment of an ordinary case is by rest in bed and application of hot cloths or turpentine liniment to the back.—Youth's Companion.

Domestic Hints.

EGGS AND TOMATOES.
Put one pint of chopped tomatoes in a saucepan, add one-half teaspoonful of salt, one-quarter teaspoonful of pepper and one tablespoonful of butter and cook until reduced one-half. Take from the fire for a moment or two, then add through a well-beaten egg-sieve the mixture, then add like salt. Four over buttered toast and serve.
MACARONI AU GRATIN.
Boil and wash one-half pound of macaroni as usual. Drain well, and season with salt; dip in it a layer of the macaroni, then one of grated Swiss cheese, salt and pepper, and repeat until the macaroni is all in. About one-half pound of cheese will be used. In a saucepan put one tablespoonful of butter and one of flour. We mix over the fire and one-half pint of cold milk and stir until thick and smooth. Season with salt over the macaroni. Cover with buttered bread crumbs and bake twenty minutes in a hot oven.

JOHN BREAD.
Four eggs, one tablespoon sugar, pinch of salt, two-thirds quart of milk, one cup of corn meal, one cup of flour, one-third cup of melted butter, two teaspoons of baking powder. Directions: Beat the eggs very light, mix ingredients well together and bake in quick oven.
PUMPKIN PIE.
For each pie take one-half pint of cooked pumpkin, a pint of rich milk, one-third of a cup of sugar and two eggs. Mix the sugar and eggs, add the pumpkin, and beat until thick. The milk should be hot, and beat all together until very light. Fill the crust and bake slowly.

CHICKEN COQUILLETTES.
One cup cold chicken (white part) chopped and mashed to a powder. Season with salt, celery salt and cayenne, and mix with one cup of cold cream. Roll in fine bread crumbs, beaten egg and crumbs, and fry for one minute in deep, hot fat.
MOLASSES DOUGHNUTS.
Beat two eggs slightly, add one pound of granulated sugar and beat till light. Add one-half cup of molasses, one-half cup of melted butter, one cup of salt and one-half cup of ginger. Dissolve one level dessertspoon of soda in one cup of buttermilk and add it to the mixture. If the buttermilk is sweet, one teaspoon of pearlash or one teaspoonful of baking soda will be enough as soft as can be rolled. Cut out and fry in the usual way.

HINTS TO HOUSEKEEPERS.
Straining-clothes, dish-cloths, etc., should be thoroughly cleaned by boiling in washing soda or pearlash. Dish-cloths should be washed in hot water. In hot weather this should be done daily.
Rubber gloves protect the hands from vegetable and fruit stains; they are especially needed in making grape jelly. Dish-cloths should be so large that one hand will not have room for free action. Grease will melt them.
When a dish seems rather tasteless a dash of salt will often improve it. This also applies to puddings and other sweet dishes.
Jellies give zest to meats and vegetables, as do pickles in the cold.

Scrub celery stalks lengthwise with a small vegetable brush, scrape off all rusty lines with a silver knife and keep covered with cold water. Drain all and two tablespoonsful of oil from the roasting pan before making the brown sauce, and chop the glorets very fine.

To bring out its perfect flavor mince meat should be allowed to ripen two or three weeks before it is used.
Make the pumpkin pie rich, but delicately flavored. Use your very dearest nut and bake with steady heat for one hour, never having it intense enough to boil the filling.

Jars kept for the use of creams should be thoroughly cleaned when emptied.
When a lemon is sliced or quartered and left to stand in a bowl, it will keep for several days for several days.
Dates stuffed with marshmallow paste make a tempting dessert.

Something new in children's furniture sets are those shown in colored woods. They come in pink, in green, in white, and are in quaint designs for table and chairs. They are covered with stencils of elves and gnomes and fairy folk of all sorts, and will be the delight of the luxurious nursery.

Extravagance of every sort is a deadly injury to Christmas happiness, even if it be only an excess of effort to build up what is itself good. Those quiet shepherds of whom the Christmas story tells us were but lying on the quiet plain, silently waiting the dominant duty of their simple lives, guarding their lambs, when the "glory shone around" and they saw the vision of the announcing seraphs.

A Christmas gift that any woman, old or young, will welcome, is one of the pretty and useful articles for the home. There are many of these pretty things in every style and price. More economical is it to make them at home. Before this is attempted some pretty model in a shop must be studied, and it is found that its duplication will be a comparatively simple matter. At all the action centers are sold foundation collars which insure the requisite shape and stiffness.

A sponge bag for each member of the house hold is an absolute necessity. The most satisfactory bag is of colored linen, lined with oil silk. Boil the bag with wash-silk ribbon, in any color which fancy dictates, and embroider the owner's initials in the corner. In a large family it is well to have the sponge bag, laundry bag, bath mat, robe and towel of each member either plainly marked or of some distinguishing color.

It is always in good taste to use sachet for the clothing provided one uses the right sort. Violet, lavender, rose and clover are all right. Sandalwood is too violent, but a little can be used, provided discretion is shown. Stronger odors are tabooed. Dainty sachets are made of bits of white muslin, covered with a design on baby ribbon are nice to hang over the backs of one's closet.

The Fashions.

Robe jackets of sealskin, worn with pastel blue cloths, make a very attractive combination.
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A broad picture hat of sable, finished with pheasant wings, is the latest in millinery.
A tulle which finds some favor is made of a fine mesh, and is finished with a lighter shade mixed with white and completed with a gray tulle rosette and two wings and two fancy pins.

Curved and pointed passementeries and lace applique laid over satin, or applied directly to the dress fabric, are so arranged as to suggest the shadow of a coming evening or the form of panthers.

The new dress skirt, with plaits or wider skirts stitched two-thirds of their length from the belt down, is finding great favor among the many women who objected to the flat, adorned, undraped sheath skirt of recent undervalued years.

Many of the handsome gumples and yokes added to the waists of winter gowns extend over the shoulders, forming a dressy sleeve cap, and also imparting an appearance of additional breadth. This is a distinct advantage to slender women.

Krimle tresses are really very dainty if trimmed with black tulle rosettes with a waving black ribbon. A note of color over so carefully chosen tulle and the style of this special hat. A rabbit carried in ivory mounted on a black stick banded with gold, is one of the novel ties in umbrella handles.

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queens are exceedingly disastrous. Instances have happened in which 50, and even more than a hundred deaths, have been clearly traced to the infection of milk with the germs of typhoid fever through the water used in the way mentioned. And we all know how it is at this season, when the accumulation of waste matter on the ground through the winter is very apt to be washed into springs and streams by the melting snow, or the overflowing of the surface by the spring rains. So, too, we may easily suspect a great number of wells in which surface drainage may flow and carry with it the accumulated filth gathered during the winter. Doubtless much of the sickness that comes with the spring and early summer may be thus caused, and it should be seriously thought of by all concerned.

Water is a general solvent, and this fact is not thought of as it should be. We think much more of impurities, but this is not nearly so serious a matter as we suppose. Water is absorbed directly into the blood, and it is impurities, of course, thus go to the very fountain of life. Water is not filtered of its impurities as the air is. When air is breathed it passes through the nostrils, which are always moist and covered with adhesive mucus, by which in many cases the injurious germs are arrested and discharged with the expired matter.

Water is the most important of the various dangers to milk. This is absorbed by the cow and infects the blood, and, of course, the milk. It is filled with noxious germs which settle on the milk as it is drawn into the pail, and as the milk may stand in a filthy stable. A case is reported in which cheese made from milk infected by the odors from a dead animal in a field as some distance from the cow stable was found to be unfit for use and it such as the results it would have been much worse for the butter made from such infected milk. Dat from mouldy hay has been shown by experiment to spoil milk for butter making; at times wholly preventing the churning by the foaming and slimy condition of the cream. The same impurity has been detected as the cause of floating in the cheese whey, and it is by no means an uncommon occurrence. Mouldy litter under the cow sheds has the same result by the action of the spore germ of the mould on the milk. In short, every kind of impurity that may be existing in the cow, or its surroundings, may be traced all the way to the milk and its products, and its behavior in making them, as clearly as one's footsteps may be traced in the winter's snow.—The Dairy.

Bees and Honey.

An English writer upon bee topics, J. W. Pagden, strongly advocates an under hive for surplus honey, instead of placing it at the top or at the side, as he has tested all three methods. He says that his attention was first called to it by going to remove a hive to a new block for an old dame. She told him that the bees had at one time entered very much over the old block and the front of the hive and then had disappeared. He examined the hive and found a hole in the centre of the floor board and decided that they had gone down into the stand, which was an old-fashioned chimney pot. On removing the floor board he found under it at about 40 pounds of honeycomb, as white, pure and beautiful as any he ever saw.

His claim is that in the box below, there being no opening excepting at the top, the warm air goes upward into the brood hive, and the lower hive will be much cooler than a top hive or super, as we use them. If the hive can be kept at a temperature below 70°, all honeycombs will be almost milk white. His plan is to cut three slits in the bottom board, three-sixteenths of an inch wide and three or four inches in length, placing them near the entrance, that the bees may find them the more readily, and though they may not do so soon as if they would go up, they will do so, and when they have found the way they will work far and make purer, whiter honey.

This plan cannot be called a new one, as his book was published several years ago, but it may be new to some who might like to try it. We can conceive that there would be some inconvenience attending the having the full hive on the top and the super beneath, but if it those who work for empty honey can get a whiter comb it may repay them.

What is known as royal jelly, on which the larvae in the queen cells are fed, is not stored in the combs, but is prepared and given by the nurse bees when rearing queens.

On page 227 of the 1899 edition of A. B. C. of Beekeeping, A. I. Root says: "The milky food, before described, which is given to the young larvae, and which is supposed to be a mixture of pollen and honey, partially digested, is very similar if not identical in composition with royal jelly. The bees are not the only examples in the animal kingdom where the food is taken into the stomach by the parent, and after a partial digestion is thrown up for the use of the offspring. Pigeons feed their young precisely in this way. A royal jelly has a very rich taste—something between cream, eggs, and honey—and has a slightly salty and rank, strong, milky taste that is quite sickening if much of it be taken."

Any egg in a worker cell can be developed into a queen, or if a colony is without a queen at the season of honey gathering, they will build queen cells upon the worker cell, in which is an egg or a newly hatched larva, and will proceed to feed the larva with the royal jelly. In this way, many of those who make a business of rearing queens for sale obtain them by depriving the colony of the queen at a time which will induce them to begin rearing new queens. Some improve upon this by taking the artificial made queen cells and fastening them upon the top bar of the frame, then transferring an egg or young larva to the cell, to be developed into a queen. Those reared in this way are claimed to be equally as good as those reared by the bees when preparing to swarm. They are looked after in 16 or 17 days that there may not be a battle between two rival queens hatched at the same time, or that the first one out may not destroy those in the other cells.

Among the music recently received from the Oliver Ditson Company are the following: *Berceuse*

POETRY.

(Original.)

THE NEW WOMAN.

Although I'm the head of a household today,
I'm under stern patriarchal rule;
There's no doubt, whatever, which one holds the sway,
And I am her slave and her tool.

She doesn't wear bloomers, or argue so bold—
As perhaps you already divine—
She's decidedly new—no, it's five summers old—
This dear, little daughter of mine.

—ANNA B. FATTEN.
Washington, D. C.

A CHRISTMAS THOUGHT.

When the day draws near its close,
The liberal radiance of the western skies
O'er land and sea before our gladdened eyes
A sunset glamour throws.

And Christmas time too comes,
Heaven sent, to light the evening of the year,
And scatter kindly fragrance far and near
Upon our hearts and homes.

Lift up your eyes and all
Your minds, my friends, with freely given light
Upon your hearts to shine more brightly—
The spirit of good will.

—O. Jeff Sharp, in the Fall Mail Magazine.

A CHRISTMAS HYMN.

Two thousand years on earth
Angels sang to God,
While their stars made mirth,
Saviour, at thy birth,
This day born again.

Thou whose face gives grace,
As the sun's does heat,
Let thy sunlight face
Lighten time and space,
Beneath thy feet.

Light, not born of morn,
High past heaven above,
Saviour, virgin-born,
Held of man in scorn,
Turn men's hearts to love.

As that night was bright,
With thy perfect ray,
Very light of light,
Turn the world's night mine,
To thy perfect day.

Bid our peace increase,
Thou that madest morn;
Bid oppression cease,
Bid the night be peace,
Bid the day be morn.

—A. C. C., in the Sunday Magazine.

REMEMBRANCE.

I met you in the summer tide,
A Harvard senior then,
On every side the corn was wide,
To me, a king of men.

I haven't more the Newport shore,
"Tis Oenotria's tale I seek;
All Oenotria, what fate is mine,
On twenty-five a week?

You saw me sweep Yale's football field,
Spurred by the diamond's word,
Now, unobserved, without a word,
I sweep a cove's floor.

My voice was great in class debate,
I'm quipped now if I speak;
All Oenotria, what fate is mine,
On twenty-five a week?

I pass you on the avenue,
You drive with stately air,
I fear you'd mock to know I walk
To have a five-cent fare.

Such drivers you bear, such swans you wear,
I leave you to your place;
Fate draws the line, you can't be mine,
On twenty-five a week.

—LILA.

KING CHRISTMAS AND MASTER NEW YEAR.

King Christmas sat in his house of ice
And looked across the snow.
"Hail, my little man!" he cried,
"Now winter, dost thou go?"

"I go, my Lord, along the way
To all my kin have gone,
Where thou, my Lord, shalt follow me
In another dawn."

"Right away," cried the Christmas King,
"Who ride tonight with thee?"
"The days of art, the days of joy,
Are they who ride with me."

"God keep thee, merry little man;
Go whisper them that mourn
How surely comes again the day
When Christ the Lord was born."

And he was not, my little man,
But when thou too art old
And o'er the wintry wastes you come,
A weary man and cold.

"Hail, cheerily I pray thee then
To keep this gracious trust,
And leave thy weary burden here
Where care and glow light with Christ."

"Now bid thy gallant company
Right onward without fear,
For, in the King of Christmas,
Have blessed the glad New Year."

—S. West Mitchell, in St. Nicholas.

Attired in eke of dusty lace
O'er triumphs tallied and,
She moves a figure young and fair,
In fashion's gay parade.

They coast her name at every club,
The world is at her feet,
For nature and the modiste make
Her loveliness complete.

She sits within the opera box,
A star above her brow;
To her the singer sings his air,
To her he makes his vow.

She dances all her nights away,
And the ermine robe,
That deck her bodice hangs her head
Against her breast of snow.

A crowd of lovers hand her steps
To carry cloak and fan,
To button up her wrinkled gloves,
And court her—if they can.

She listens to their ardent words,
But she is fancy free,
Perhaps because she has a dream
Of castles o'er the sea.

Upon a moonlit balcony,
Before the ball is done,
Her dewy lips may yield a kiss,
The sweetest ever won.

She knows the ebb of a thrill,
A tingling's subtle art,
She lets you hold her little hand,
But never leaves her heart.

—MUNA IRVING, in Leslie's Weekly.

REMEMBRANCE.

Most strange it is to stand when shades are free—
Loosed from the light that chained them here
And there,
To hold their hushed dominion everywhere—
To stand and commune with men's ally.

For due was bound by daylight's tyrant glare,
The faithful follower of a sun to be;
And one was forced—light lovers needed be—
To wait all day upon a shade of love.

And each were then the shades of love or loath
ing
Of him whom they their daylong master made;
Now all have defied their loved or hated cloth-
ing

And mingle o'er the earth in shapely shade,
For in the home each shades our souls from
Said,
Shall shudder to have served so foul an art.

—From "Minnisota," Francis William Bour-
dillon.

THE CHILDREN'S CHRISTMAS.

Beneath the cedar and the pine,
And gleaming Christmas holly,
Our happy thoughts a wreath entwining,
Our silver voices are jolly.

For in the home are charm and mirth,
And here are sadness, folly—
Here, in the dearest spot on earth,
Beneath the Christmas holly.

—Katherine B. Johnson.

At the Feast of Navidad.

"The blonde Americanita will surely die,"
said Oso, the house servant of the Casa de
Espejo in the Calle Zorbarera.

The house of his soft Spanish voice was not
loud, but they reached the ears of the sick girl
as she lay on her couch by the window of the
sunny room overlooking the park.

She had her brown, then flushed and paled
unconsciously, and a far-away look came into
her great gray eyes. She gazed slowly out of
the window, past the straggling roots of the
honey, toward the matchless blue of the sky.
So she was to die? She had not thought of dying
yet; her work was just begun, her novel
half finished, and she—

"The Señor Doctor for the Señora," said
Oso, and she came back from her reverie.

"You are better," said the doctor, gravely, as
he sat down beside her and felt her pulse,
which, like a wild bird, fluttered to be free.

She laughed gently.

"The Señor Doctor knows that I shall never be
better," she answered. "No, do not deny it,"
as his dark face flushed and he began to speak.

"It is nothing to me to die. I have only my
work to do for the moment, and I may well say
that just as well—better perhaps, with a little sigh.

"My father and my mother are dead; my people
are engrossed with their own lives; I am not
necessary to any one," said, "and I am not
afraid to die."

The doctor looked at her searchingly. He had
a high, white forehead and deep-set, dreamy eyes,
keen, dark and passionate, yet with a clear ex-
pression which seemed to deepen into one of
tenderness at times.

He answered her quietly, "There was a man who
drew a curtain of reserve about his real feel-
ings."

"Your friendship is something to me, Señora."

She looked at him in surprise, her pale cheek
flushing under the doctor's words.

"You are so kind," she murmured with a
quick little nodding of her head. "I do not
know why you have been so kind to me ever
since I came to Madrid. I have trusted in you
from the first. But my friendship is not to be
so much to a man like you. I—what am I? A failure!"

Her laugh had a trace of bitterness in its
depths.

"Not so!" he said eagerly, taking her little
hand in his strong ones. "Think what you have
done by your writing. It is an art with you;
such power as yours lifts up the soul and makes
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"You mean, you should recover?"
There was a sharp ring of pain in his voice,
his hand held hers tightly, his eyes gazed upon
her as if he wished to force some of his own
vitality into her being. She smiled a little
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and giving some directions as to her
medicines he went toward the door.

"Señor," she said, he paused, his proud head
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attacks of pain which were slowly but surely
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It was not the next day, but the next day,
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She was so fair, so brilliant in mind, so full of
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caught a glimpse of the brilliant woman she had
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told him every detail of her past life, and as
he listened he said:

"Ah, Señora, you are going so soon? Is it to
see some one older than I am?"

"Not so, Señora, I am not going home yet,"
he answered.

"I am so glad to glad you said that," she
cried, looking at him through a mist of tears.

—Navidad is Spanish for Christmas.

When he was gone she murmured to herself:

"Thank God, he loves his wife. If he loved
her, he will be happy." Then she closed the
little room, and when she had locked the door
and sighed a prayer, "Dear Christ, make him
happy and make her good to him; but the prayer
ended in a sob.

She grew weaker every day, and thus the
summer passed and there came winter, bleak
and chill. The Christmas fete was over, and a
holiday in old Madrid and all the abandon of
the holiday was in the air. The Christmas singers
were in the streets and their cheerful voices
were wafted to the sick girl as she lay in her
little chamber, and she smiled and murmured to
herself, "The Feast of Navidad, I shall be better
now."

"I will come again this evening, if I may,"
Señora," he said to her when he came on the
morn of Christmas to wish her a happy feast.

Her gray eyes grew a little startled, but she
only smiled a smile about her throat and
said, "Is the end so near? Is this my last Christmas
here?"

He could not answer; he only pressed the
finger and there was silence in the
little room, and he stood about her throat and
the delicate fragrance of a deep red rose which lay
beside her, seeming strangely at variance with
the waxen hue of her face.

"I want to tell you that you have been an
inspiration to me," he said at length in a low
voice. "If I am ever what you have been to
me, I will be because you have been all that
you are."

"Thank you, my dear," she said in a whis-
per, and he left her, a smile just parting the
tender curves of her lips.

Later in the day he stood and looked down
upon her, his face pale as the full of sorrow.
Had she been less near the borders of that spirit
world where love lays down his earthly garb,
she might have guessed his thoughts, but she
only put out a fragile hand and said:

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know why you have been so kind to me ever
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It was estimated that at the falls at South Had-

ley there were 1500 horses in one day.

GEMS OF THOUGHT.

"The years have taught some sweet, some
bitter lessons, none
Wiser than this—to spend in all things else,
But of old friends to be most miserly."

"The man who would give his wealth to his
servant, not his master."—Aron.

"The man who is to be a true friend, must be
to love and to be loved is the greatest happiness
of existence."—Sydney Smith.

"That friendship only is indeed genuine
when two friends, without speaking a word to
each other, can understand and happiness in
being together."—George Eliot.

"The kindness of life in this atmosphere
of love and power is unimaginable to those who
have never tasted the sweetness. To experience
it fully, is to be alive indeed."—Aron.

"Lose not a day in useless lamentation. Help
make whatever you can; love them, and
thank God, that you have seen and known and
loved on this earth, and that you have lost it."

"We should hold fast the souls which friendly
fate leads to us, for they are destined for us,
and no power can tear them from us if we have
the courage to live, to struggle, and to die for them."

"Thank you, my dear, that I am no orator,"
though I'll water a leafy tree. But the
fourth kind of pie is not a leafy tree, but a
man's closing appeal. I was writing, too, over
having the fellows idling round town. They're
good boys; but they aren't Phil Tidds, and I've
known them to hurt their voices over night."

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inspiration to me," he said at length in a low
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and giving some directions as to her
medicines he went toward the door.

"Señor," she said, he paused, his proud head
thrown back, the clear profile framed in the
black of his door and his hand, well defined
against the sombre woodwork. She thought he
looked like an old Velasquez as he said, "I pray
you to give me your remembrances to the Señora,
your friend, Señora," he said simply.

She lay quietly thinking, a little smile upon her
lips.

"I thank you, Señora," he said simply.

She was very lonely, this American girl, dying
alone in the foreign city to which her literary
work had brought her.

She had many friends in Madrid. Her
time was too short; she had been very busy and
was not so much alone, and she knew it not.
Nevertheless, she was a woman with a wealth of
tenderness for the few she loved.

How kind the doctor had been, she thought
again. She would give him a happy, but not
look so, this grave and courtly man with the
red face, so passionate and yet so restrained;
a face with all the power for good or evil of Don
Rodrigo or El Cid.

Indistinctly she felt that he was a man to
whom everything appealed, music, art, beauty.
Such nature, with far more possibilities than
less sensitive ones, are harder to curb. She
knew that he could be either very grand or
very petty, or else the most cheerful and the
most cheerful of his life. She hoped he would be
good; and then came one of those agonizing
attacks of pain which were slowly but surely
wearing her life away.

It was not the next day, but the next day,
and his visits grew to be the only thing to
which she looked forward. He was so good to
her that she could not help caring for him. She
was not a woman to give her love uncourtly, yet
the heart slipped from her and she knew it not.

"My friendship cannot hurt him," she murmured
to herself, not knowing that friendship was but a
cloak to hide a love as deep as the ocean, as un-
questionable as the earth, and as true as the stars.

She smiled when he tried to tell her that she
was better. She did not want to be well; she
was too tired. Just to lie still, quite still, and
see him every day that was all life held for her.

As for the doctor, he looked at her in
wonder. He had never known a woman like her.
She was so fair, so brilliant in mind, so full of
a nameless charm, which all he saw felt none
define. At times when he saw her fragile blonde
beauty grow more ethereal every day it seemed
to him as if he could not let her die. He would
walk away from the couch where she lay so
patiently sweet, and clench his hands in rage
that he could not conquer death.

One day when she was suffering so that her face
was pinched and drawn, she heard a stifled
groan, and looking up she saw that his eyes were
full of tears, and his face was white with sym-
pathy.

"I cannot bear to see you suffer," he said
brokenly, and she answered,

"Then I will be brave. Fear not for me, my
friend. Let the wearisome summer days which try
me. I shall be better at the Feast of Navidad."

After that she tried to hide the pain which
daily, almost hourly, grew worse.

Every day the doctor's visits grew longer.
Coco and his head sorrowfully, everywhere in
the Casa de Espejo the little "Señora
Americana," as they called her.

She was so fair and beautiful, so patient and
gentle, so ready with her smile "Gracias," for
every little service.

El Señor Doctor talked to her of many things.
She had lived much in her five and twenty years,
a life full to the brim with art, travel and
culture.

Her was a rare soul

THE HORSE.

From the New York Tribune.
Frank Work's Story of Dick Swiveller.

One of the sights of the town for horsemen who visit New York is the private stable of Frank Work, in West 50th street, next door to Carnegie Hall. The place is one of the finest horse homes in the city, and it shelters one of the most notable collections of trotting roadsters in the world. In company with the Western reinsman, "Jack" Curry, and the Boston horseman, Herbert Gray, who looks after the turf interests of Thomas W. Lawson, a reporter of the Tribune visited the place last week. Mr. Work had just come in to order Barretti (215) hooked up for his regular morning drive. While Charles Mell, the foreman, was getting the shapely big bay mare ready, her owner sat in the dining room of his luxurious apartment upstairs and talked interestingly about his equine pets, particularly the famous old pole team, Edward (219) and Dick Swiveller (218).

Mr. Work's strong attachment for his horses was brought out forcibly when old Swiveller, in his 30th year, lay down and died about a week ago. The old horse somehow got down while he was loose in the exercising room of the big stable, and could not rise. Foreman Mell thought he had fractured a bone in the shoulder, but his owner attributed the trouble to an attack of spinal meningitis. Everything possible was done to relieve his suffering. Mr. Work would not leave his stable. Himself past 80 years old, he watched over the dying horse until after midnight. When it became evident that old Swiveller was near, Mr. Work put him to sleep by administering chloroform.

"I thought it was the humane thing to do," said he.

"How did you come to buy the old horse, Mr. Work?" inquired "Jack" Curry, hoping to hear the story of Edward and Swiveller.

The veteran horseman blew the smoke from his cigar toward the ceiling and said:

"A friend of mine saw Edward out West early in the campaign of 1878, and advised me to buy him for a road horse. When I heard that he was only 15 hands and an inch high I decided that I didn't want him. But I kept watch of his performance through the Grand Circuit that year, and when the horse reached Providence I went over to see Edward race. He was entered against Dick Swiveller, Powers and one or two others for a purse of \$500 or \$600. I had no thought of buying Swiveller until I saw the two horses go to the front in the first heat and trot stride for stride from wire to wire just like a double team. It was one of the finest spectacles I ever saw on a race track, and it captivated me completely.

I remember it, Swiveller won the first heat in about 3:17. That was the time, at 2:21 or 2:22, he went. For the second heat "Jack" Bowen was put up behind the chestnut horse; "Jimmy" Golden drove Swiveller. The second heat was like the first, Edward and Swiveller trotting the full mile like a team. The bay horse won again, right at the wire, about the same time as before. The third heat went to Edward after another close contest. It was after old "Jack" Bowen had won this heat with Edward in 2:19 that he came up to where I stood and said: 'Buy him. He's the fastest young horse I ever pulled a line over.'

"To make a long story short Edward won the race. His time in that third heat was about two seconds faster than the judges announced. My recollection is that he trotted the mile in 2:17. I at once began to negotiate for both Edward and Swiveller, and finally bought them. Edward cost me \$12,000.

It was nearly a year after that I got the other horse. For Swiveller I gave "Jimmy" Golden \$15,000 and another horse. I took them up to Saratoga, the best place in the world for horses, and drove them on the sandy roads there for some time. "One day after I came back to the city and had driven the team up to Fleetwood, the talk on the clubhouse piazza turned to double teams. William H. Vanderbilt, "Shep" Knapp and a lot of other riders were there. I took the ground that two trotters well matched could go faster together than either of them could go in single harness. "Shep" and Vanderbilt ridiculed the idea. Edward and Swiveller were standing under the shed back of the clubhouse, and I took them out to prove the truth of my argument. They were just as they had come from my stable downtown, untrained and not in any way fitted for a fast trial. I took the reins, while Vanderbilt and "Shep" Knapp got out their watches to take the time. They were very sure the team couldn't go to the half better than 1:15, but when they came to look at their watches they found the distance had been covered in 1:04.

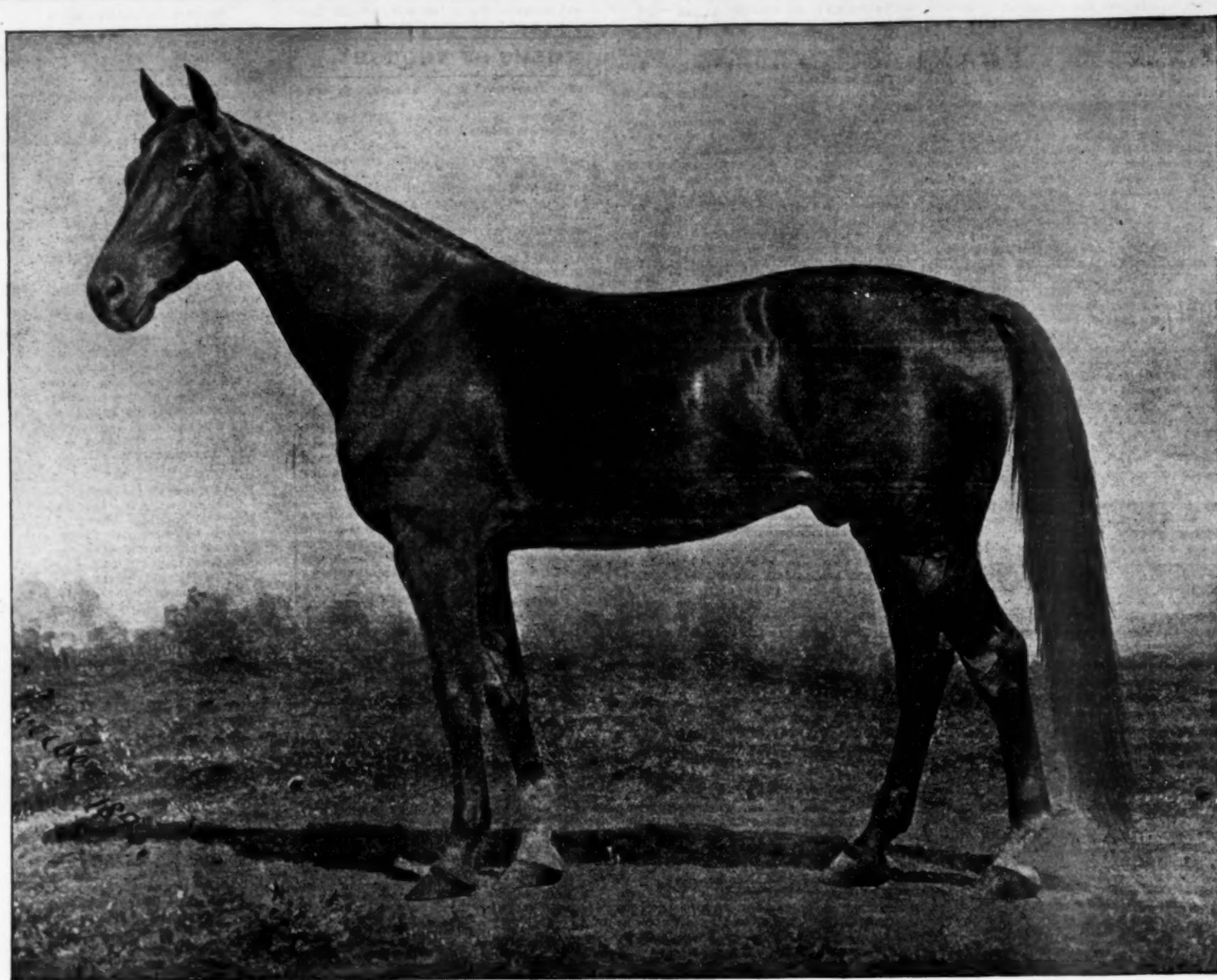
"The best time on record for teams was then 2:23, made by Vanderbilt's Small Hopes and Lily Mae, and this burst of speed at a 2:17 gait by Edward and Swiveller caused something of a stir. I made the statement when I got out of the wagon that my team could beat the record of the Vanderbilt pair. "Shep" offered to bet \$1000 they couldn't do it, and we made a match right there. I got "Dad" Mac to drive the team, and when the day of the trial came on they turned the Fleetwood track in 2:10. "Shep" said to me:

"You're got me thousands; now I'll make another match for the same amount. You take the team, and I'll take the record—2:10. All right," I said. "It's a go. I thought it wouldn't be safe to let Mac drive again under the circumstances, so I got 'Johnny' Murphy to handle them this time. I told 'Johnny' how to drive the mile. 'Don't let them go down to the half faster than about 1:06,' I said, 'but when you get there, send 'em for home as fast as you can.' Murphy milled them, but they got home in 2:03, winning 'Shep's' thousand, and beating Vanderbilt's team out of sight.

"Shep" was thunderstruck, but he wanted more. 'Now you've got \$2000 of my money,' he said. 'Give me another chance. I'll take the new record for \$2000, and you take the team.' I took the team, but stipulated that the trial should be made at Providence, where there was a fast track. The trial took place in 1884. Murphy drove the team in 2:04.

He re the octogenarian horseman told the time made by his pet trotters 15 years ago in each quarter of their record-breaking mile, stating the details of the performance with a degree of precision and clearness as great as if the mile had been trotted yesterday.

"Old Swiveller was a fast horse right up



EDMARK (4), 2:16, SIRE OF TOMBOY, 2:10 1-2.

to the day of his death," continued Mr. Work. "Only a few years ago my son drove him up to Fleetwood one day and gave him a spin on the track to satisfy Major Dickinson that he was still quite a trotter. The major made a guess before George started him up that he would trot half a mile in 1:15.

"'I'll bet that,' said I. 'He'll beat 1:14, 1:13, 1:12, 1:11 and 1:10.' I'll just wager you a bottle of wine that he trot the half in 1:06." The major bought the wine, for my son drove Swiveller the half mile in 1:04. Edward made his record more than 21 years ago, yet he is a fast horse today. He gets just as much care as if he were in training to beat his record. He is shot nearly every once a month, and is turned out in the exercising room downstairs every day. I hope the old fellow will live to be 40 years old.

The first time that the writer saw Edward, mentioned above, was at Mystic Park in 1877, in a race for the 230 class. The other starters in this race were Anodyne, Hiram Woodruff, Clover, Belle Oakley, Lady D., Walter, Dick Moore and Billy E. The same lot of horses had met the previous week at Beacon Park, and Hiram Woodruff, a bay stallion, had won in straight heats, times 2:26, 2:30, 2:37. The Maine-bred gelding Anodyne, owned by Mr. Jennings, then of Anodyne Hiltman fame, Bangor, Me., and driven by the late Charles Rackord, got second money.

Anodyne was shipped from Maine on board a steamer a few days before the Beacon Park race. Owing to some mishap to the boat the horse was on board for several days, and for the last day or two had neither hay nor grain. He reared so well that Rackord was confident that he could beat these horses at Mystic Park where they were to meet the following week. Some of the other parties who had horses in that race were of the same opinion. They went to Mr. Jennings, the owner of Anodyne, and asked him if he wanted to give his horse a hard race and fast record, "because if you do not," they said, "there is a stallion in the race whose owner had just as lief give him a fast record as not and we shall play him to win."

Pools were then sold in Lafayette Hall, Bowdoin square, evenings before the race came off. Mr. Jennings was not a betting man, and as it was thought that Anodyne's trip on the boat, together with his race at Beacon Park, had not improved his chances for winning, Mr. Jennings, who did not wish to have Anodyne cruelly treated, decided that he did not care to have his horse win. The betting fraternity who were "inside the ring" then thought they had a soft sure thing. Charles Rackord, who knew what Anodyne could do, went to a friend and told him to put his money on the chestnut son of the Ross colt. He did so.

Tacerae (Mystic Park) was on the card for Oct. 15, and when the bell rang nine horses started for the word. Hiram Woodruff, which had won at Beacon Park, took the first heat in 2:37. Belle Oakley, driven by John Trout, finished second, Clover third, Anodyne fourth, Dick Moore, trainer Golden's old

favorite, fifth, Edward sixth, Walter seventh, Lady D. eighth and Billy E. distanced. Charles Rackord cut out the work in the next heat with Anodyne, and won it in 2:26, with Belle Oakley second again, Edward in third position, Hiram Woodruff fourth and Dick Moore fifth, etc. The latter was not in condition to trot, and Mr. Golden drew him before the next heat was started. The third heat was a horse race. Outsiders thought that Anodyne won it, and his driver claimed the heat, but Clover got the verdict, and Anodyne was placed second.

At this stage of the game matters became decidedly interesting. It was evident that Rackord was determined to win. Parties who had spoken to Mr. Jennings about the race several days previously accused Mr. Jennings of playing false, but they did him an injustice. He had told his driver not to give Anodyne a hard race, in fact, had repeated to him the conversation that the other horsemen had with him, but as Mr. Jennings had nothing invested in the pool he drove the driver of Anodyne decided to make it a lively race and win it if he could. He sent Anodyne for the fourth heat, and got in 2:26, but it was Edward that forced him out that time.

It was then too dark to finish the race that night, so it was postponed until the following day, Oct. 19. The drivers were given some advice by the judges, and trainer Golden was put up behind Edward. It was determined from Rackord's manner that he was determined to win if possible, and just as apparent that the others were equally as determined to beat him. The heat was a very pretty one from start to finish. It was soon resolved into a duel between Anodyne and Edward. From the upper turn on the back side until well inside the distance flag, Golden kept Edward hanging to Anodyne's sulky wheel like a shadow. Rackord was anxious to win. He had the pole and did not allow Edward to get an inch the advantage. When Golden made his drive at the short distance Rackord shook Anodyne up and applied his whip vigorously to the sulky shaft. The down-east horse responded and won the heat by a short margin in 2:35.

Edward started in 14 heats that season, and closed it with a record of 2:30. He took a record of 2:19 at Providence, R. I., the following year. This was the race described by Mr. Work. Dick Swiveller won first and second heats in 2:22, 2:19, and Edward the next three in 2:19, 2:21, 2:22. Edward's sire was Masterlode (also known as Fisk's Hambletonian), a son of Rydyk's Hambletonian. Dick Swiveller was by Walkill Chief, another son of Rydyk's Hambletonian.

Anodyne (235) was at first raced under the name of Honest Bill. He was bred at Rangely, Me. His sire, the Ross colt, was a great-grandson of Harpinus, by Bishop's Hambletonian. The dam of Anodyne was by Young Hogarth, also known as the Davis Horse, from the fact that he was owned by Sylvanus Davis, then the leading blacksmith and best judge of trotting stock in Phillips, Me. This Young Hogarth was by a fast running horse brought from somewhere in the Province to the vicinity of Augusta, Me.

Lexington (Ky.), Notes.

An effort is now being made by a number of horsemen against what they call "winter-closing stakes." It is not specially relevant that some of these horsemen have themselves given stakes when they were track owners, and that their stakes were of the winter-closing variety; it does not follow from that circumstance that they did not want about all their money in January. It is asserted that as matters now stand owners cannot enter their horses in these winter-closing stakes with any certainty; that they cannot know whether they are good, bad or indifferent in time to make their entries, and that the risk is too great to take. Certain threats are also made against the tracks that continue to offer stakes of this kind. They are to be boycotted, and all sorts of dire vengeance is to be wreaked upon them.

On the other hand, the associations may well contend that if they walk till every owner has full opportunity to enter his horse in the winter-closing stakes they will only be made worse there is a reasonable certainty of winning; that they will by the time the race is trotted find themselves with a stake in the matter; that the winter-closing stakes are not a new thing, but a time-honored one, and that the risk is too great to take. Certain threats are also made against the tracks that continue to offer stakes of this kind. They are to be boycotted, and all sorts of dire vengeance is to be wreaked upon them.

ame confidence. They won't have it till you do.

People generally think that an owner has very little respect for his stallion if he won't advertise him, and people are generally right about it, too. If a horse is really good a liberal supply of printer's ink will build him up faster than anything else in the world. Maybe you think I am talking for effect, but if you are inclined to be doubtful about it, just think a little and tell me what trotting stallion ever became a great horse without liberal advertisement. There may be a very few such that reached a success when about too old to be of much more service. But this is not what owners want nowadays. They want their reputations made while they are young enough to do their owners some good.

Who wants a horse that has the true elements of greatness in him to pass the days of his youth in obscurity, and then to come up like a dying candle just at the end of his career. When people begin to know what he is he's gone, and they say: "What a wonderful horse he was, and what a pity he did not have better opportunities when he was young." This has been the fate of many a great horse, and all on account of an unscrupulous owner. O such a horse it may often be written, "A victim of wasted opportunities." I have never addressed the readers of the PLOUGHMAN on this subject before, but now on the occasion of the last year of the century stallion owners cannot think to do so.

THEODORE L. ARTHUR is in winter quarters at Brooklyn with Beale Owens (213).

Nizer Jack (214) and Frank Creamer (215).

Only one meeting will be held at Des Moines, Ia., next year, and the probabilities are that it will take place the first week in July.

If any equitable plan can be contrived I would be extremely pleased to find the dates on the early closing events move up a month or two more. That this would be a great convenience to owners and drivers is not a matter of doubt. A man will know a great deal better what to select for a particular race the 15th of June than he will the first of May. No driver doubts that but the real question is what can the associations do to make the season a better one. If they do not, they will gradually comply with the request of the horsemen if they can. That they are usually glad to do so everybody knows. They want some reasonable action, however, and when such late entrance stakes are given there will be entries enough to fill them, and there should be no two or three entries for one entrance fee unless they are given to all alike.

These are the merry Christmas times, when people for a little season quit sweeping, dusting and selling horses. Just now they appear to be taking a holiday rest. Doubtless they'll soon break loose again, and then there will be no end of all sorts of horse men. Just now the buying and selling fellows are quiet, and they will begin to begin for the good year that winds up the year that end the present century.

It is rather an odd thing to stand on the brink of a departing century and see it take its farewell. It is not every one who has an opportunity, and not one among millions can witness such a sight more than once in a lifetime. It is enough for most of us that a new year is about to begin. The same round of duties will again open up before the new year of us. Frequently a little burden, but no matter for that. Sometimes fate, or chance, or whatever we may call it, interposes a little variety. It may be of the pleasant or it may be of the unpleasant sort, but generally it is not a matter of great concern to us. We come to the old humdrum again while it lasts, which isn't always.

At any rate, the buying and selling of 1899 is now pretty well over. It will be well along in January when it begins again. The men who are preparing to campaign in 1900 will then commence to organize them, and they will be looking around for horses to fill up their campaigning stables. The men who have stallions will locate them, and if they expect to do much with them will commence advertising them. These gentlemen have now fully learned the salutary lesson that it does not answer the purpose to keep their lights under bushels. They now have experience enough to know that however great the stallion it is necessary to let the world know that they are in the business, and that of two horses any thing like equal, the one advertised and the other not, the one advertised will not last long, and we come to the old humdrum again while it lasts, which isn't always.

Don't be afraid that your horse will be too well known. That's a thing that never occurred yet with a good horse. If he's worthless the less said about him the better, and unless he is well advertised he won't get any one to buy him. He is worthless, and if his owner does not think enough of him to advertise him he generally is.

George Wilkes was not advertised extensively as a stock horse till he was 17 or 18 years of age, and his career as a stallion dates from that time. The merits of Kiettoceer as a stallion were unknown till he was about 14 or 15. Either of these horses might have made his name long before that time. A man is with many horses, if thoroughly advertised and opportunities given them early in life they will make great horses; otherwise not. If your horse is worth keeping as a stallion at all, he is worth the best opportunity that can be provided. If not, make a gelding of him and be done with it. Sometimes an advertisement does not appear to pay. Your horse may be slow in making a start, but when a horse that has been well advertised soon begins to make a start he comes with a rush. If you have confidence in him by all means advertise him and give other people the

Samuel Owen here, Apponaug, R. I., informs us that Admiral Dewey, who took a record of 2:24 at West Kingston, R. I., in September, is by Aristocrat, son of Dictator. Mr. Carruthers assures us, also, that the bay mare Georg's R. by Hambletonian George, has a record of 2:24 instead of 2:24 as has been stated. H. says she took this record at Woonsocket in 1896 and she has never reduced it.

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Ansonia	2:09 1/2	2:05
Acc.	2:09 1/2	2:05 1/2
Frank Rydyk	2:13 1/2	2:08 1/2
Hubber	2:16 1/2	2:10
Leitch	2:19 1/2	2:14 1/2
Jack D.	2:19 1/2	2:14 1/2
Ruby	2:19 1/2	2:14 1/2
L. H. Chase	2:19 1/2	2:14 1/2
Lady Wellington	2:33 1/2	2:14 1/2
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